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Original Articles

THE OMENTUM.*

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Battle Creek.

"There are more things in heaven and earth, Horatio, than were ever dreamt of in your philosophy."

As the wonderful functions of the omentum, with its instinctive, almost intelligent, action, begin to dawn upon me, the truth of the above quotation appears in a stronger and brighter sense than ever before.

During my college days I was taught, and read in my "Gray," that the omentum was merely a fold of the peritoneum reflected from the stomach and to a lesser extent from the liver, spleen, and transverse colon. It was described as thin, cribriform, consisting of two membranous layers, vascular, and always containing some adipose tissue. Its function was supposed to be "to protect the intestines from the cold, and to facilitate their movement upon each other during their vermicular action." (Gray.)

The inquiring mind of progressive surgery, which explores many abdominal cavities in living subjects, unable to always reconcile conditions of the omentum, both physiologic and pathologic, seen there with those mentioned above, has forced the study of this important structure, and brought to light many of the hidden functions and pathologic conditions of this hitherto neglected member.

To H. O. Marcy, of Boston, that paragon in abdominal surgery, that wonderful man, who by his lovable personality, coupled with his acknowledged scholarly attainments and pronounced professional ability, has done so much to advance surgical knowledge both in this country and in Europe, and who for his very worth we all delight to honor, is due the credit of having presented to the gynecological section of the A. M. A. at Saratoga last June one of the most complete, thorough and comprehensive expositions of this subject that it has ever been my privilege to listen to. You will find it printed in *The Journal of the American Medical Association* for August 30, 1902. It is well worth perusing. I heartily commend it to your earnest consideration.

If we accept the early teaching and look upon the omentum as a fold of the peritoneum, ascribing to it the functions of keeping the intestines warm and protecting them somewhat from injury, we will still be at a loss to account for the many and varied changes found in its substance by surgeons who have frequent opportunity to investigate it.

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If, however, instead, we follow the more recent physiology which treats it as an enormous glandular structure, with all the functions of lymph glands as well as many others peculiar to itself, we can more readily understand the behavior of this wonderful structure. In fact this view seems forced upon us as we study carefully into the anatomy of the omentum and note that its enormous blood supply is equaled by an also enormous distribution of lymph channels, which in truth accompany and are coextensive with the vascular supply.

The nerves distributed to these vessels arise in the celiac plexus, thus establishing the connection with the sympathetic system. Might not this justify the belief that the omentum exercises a selective action in maintaining a stable equilibrium of the fluids of the abdominal cavity? Dr. Marcy raises a query that, "if in a certain way it may not also exercise a so-called phagocytic power in limiting infection in the abdominal cavity?" and calls attention to the marvelous manner in which an infected area, as a diseased appendix, Fallopian tube, or an incision made in an infected case, is isolated by a seeming conscious and thoughtful sacrifice, where a portion of this great fatty apron is wrapped around the offending member or part, and an enormous exudate of lymph cells are thrown out, thus completely walling off the diseased portion.

Beautifully illustrating this point, allow me to present plaster casts of two appendices removed within the last year. In each case the omentum has completely isolated the diseased part; in the one only the distal end of the appendix was inflamed, but note with what exceeding great precaution the omentum has gone on throwing out lymph cells until a large mass, a score or more times larger than the disease itself is formed around it. In the other case the entire appendix was involved and is entirely enveloped. You will notice where it has been reflected back to allow the appendix to appear, which for ease of observation I have stained red.

Interesting indeed is the study of processes going on in this enormous protective hyperplasia. Not only does the mass consist of newly formed lymph cells, but being richly supplied with blood as well, all the conditions for a battle royal between the phagocytes and invading germs, also for lymphatic absorption, are present. Thus not only does the omentum furnish an abundant protection to surrounding parts, but by its ever seemingly thoughtful solicitude for the general good provides a battle ground for phagocytosis; nor does it consider its work done until its increased number of lymph cells and channels have absorbed and carried away the last vestige of the "relics of battle," and in many instances does not rest until the entire diseased organ is absorbed, thus rendering a future invasion impossible.

Wonderful and astonishing as is this protective action when dealing with inflamed appendices, it is not more so than the efforts made by this same interesting structure when trying to protect the intestines from incarceration in hernia. Here again its seeming intelligence is shown by its rushing to the site of the injury as soon as it occurs, insinuating itself around it and, if a sac is formed, being the first to force itself inside where by an increased deposit of fat it endeavors to so fill up the space as to leave no room for the intestines. This occurs in all

forms of hernia, scrotal, femoral, ventral and umbilical.

Where trauma of the abdominal parities or contents occurs, here again will the omentum be found folding itself around and overlapping the injury until a perfect, or as nearly so as possible, protection is formed. And when infection comes in, whether from a ruptured appendix, pyosalpinx, infected uterus, ruptured gall ducts, or other cause, it immediately hastens to the invaded spot and through its enormous supply of lymph channels and glands acts as a great sponge in absorbing the septic fluids. If this action is sometimes disastrous the explanation may be found in the fact that the quantity absorbed is greater than the number of phagocytes in the normal omentum can destroy, and the rapidity of absorption is such that time does not permit a sufficient hyperplasia of the omental tissue to supply the necessary reinforcements to prevent the toxines reaching the general circulation. Consequently septicemia developes.

Wonderful indeed are the factors engaged in the life problem! Amazing are the dangers that constantly surround it! Astonishing are the provisions placed by an all-wise and omnipotent Creator to aid in its perfect solution!

Manifestly no part of an organ of such confessed importance should be sacrificed lightly. Where thickened portions exist, unless the offending element causing the thickening can be removed with them, they should be retained. Folded parts should be carefully spread out. When drawn up either by the Trendelenberg position or pushed up by means of the fingers, it should *always* be carefully brought down before the abdomen is closed, and where rents are made in it from any cause they should be either patched by another portion or drawn together and lightly sewed. It is true that there are cases where large portions may and should be removed, as it is safer than to return them into the abdominal cavity. One word of caution which may be put down as a cardinal principal in removing portions of the omentum: *Never ligate en masse,* but always in small sections; otherwise serious hemorrhages will occur and fatal ones have.

Wiggin of New York suggests as a means of restoring the omentum to its normal position and the prevention of adhesions after intra-abdominal operations, washing out the cavity with saline solution, leaving it full of the same, and closing without drainage. This procedure I fully believe to be rational, especially so in infected cases, where, however, we should always use drainage.

Multiple cysts, neoplasms, dermoid cysts, tubercular deposits, cancer, and cystic tumors of considerable size have all been reported. Cysts, whether multiple, multiocular, or single, might easily be caused by a stopping up of one or more of the lymph ducts or channels, causing a large deposit of cystic fluid back of the occlusiona. Neoplasms, cancerous or otherwise, are more often secondary in the omentum than primary. Colonies of the bacillus tuberculosis may become lodged and cause a condition of milliary tuberculosis, which, however, at first may offer some difficulty of diagnosis.

Of profound interest, so much so that I must hazard a little repetition here, is the inquiry into the ultimate results of the absorbent function of the omentum when septic fluids get into the abdominal cavity. Its power of absorption is so great that large quantities are taken up

in short intervals of time. This is done with the evident purpose of protecting the peritoneum from its irritating action and a resulting septic peritonitis. However, may it not occur that such large quantities are taken up and so rapidly, as in the case of a ruptured bowel, that for lack of time phagocytosis cannot be completed in the omentum, thus forming an avenue for the induction of septic material in such quantities that general septicemia is the result?

What I consider a beautiful illustration of this unfortunate condition was furnished me a few weeks ago. A young man (farmer) shortly after supper was driving the horses to hoist hay into the barn by means of what is known as a horse fork. By this process the horses walk forward a short distance pulling smartly while the fork load is going up, and then back until the empty fork returns. This young man was walking behind the horses urging them to vigorous action when the whiffletree suddenly broke. The end flying back with terrific force struck him in the abdomen. Although almost immediately attended by an excellent physician, something like fifteen to eighteen hours passed before the surgical importance of the case was recognized. I saw him the next day a little after noon. He was then moribund with all the symptoms of septic toxemia, and died an hour or two later. Could such profound results be caused in so short a time by peritonitis alone? Absorption by the omentum greatly simplifies the case to me and forces the necessity of *immediate* operation in such cases more strongly on my mind.

Had a surgeon been at hand within an hour, opened the abdomen, sutured the ruptured intestine, and flushed the cavity with saline solution undoubtedly this life might have been saved. Too much emphasis cannot be laid on the importance of *immediate surgical* treatment in these cases of severe injury to the abdomen, *especially* if received shortly after a meal when the stomach is full. In such cases *rupture* is much more apt to occur, *and if it has occurred* the case *is fully a surgical* one; no other treatment is of the slightest avail. (The above was written 10 months ago.)

Recent investigations show that the enormous powers of absorption of the omentum admit of the taking up of the septic material in the peritoneal cavity so rapidly as to completely overwhelm all efforts at phagocytosis. This factor should be borne in mind in a case of ruptured intestine by accidental means and an operative procedure instituted at once.

A STUDY OF SOME DIFFICULTIES IN THE USE OF THE OBSTETRIC FORCEPS.*

JAMES E. DAVIS,
Detroit.

The functions of the obstetric forceps are four in number, viz: (1) As a tractor; (2) as a compressor; (3) as a rotator; and (4) as a dilator, lever or irritator. There are four applications, designated as: (a) *forceps upon the floating head,* that is, when it is freely movable above the pelvic brim; (b) *high forceps,* when the greatest circumference of the head has not passed the superior strait; (c) *mid forceps,* when the head presents at or just above the ischial spines; (d)

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low forceps, when the presenting part is upon the perinæum or below the junction line of the ischial spines.

Indications for forceps arise from anomalies of (1) the expellant forces, (2) of the passages, (3) of the passenger, or (4) because of complications of labor, apart from the mechanism. The following prerequisites should obtain for safety in operations with the obstetric forceps:

(1) The child must present correctly; (2) the cervix must be fully dilated or dilatable; (3) the membranes must be ruptured; (4) the head of the child must be neither too large nor too small; (5) the disproportion between the fetal head and pelvic canal must not be too great; (6) the child must be living and viable unless extraction can be done very easily; (7) the biparietal diameter should have descended, or permit of descent, by suprapubic pressure to the level of the pelvic inlet.

In the foregoing, I have enumerated the classic relations of the function, application, indication and prerequisites or contraindications of the obstetric forceps for convenience and utility in the study of some difficulties not infrequently presented.

The most important function of the obstetrical forceps is that of traction, which supplements a deficient vis-a-tergo by sufficient vis-a-fronte to effect delivery. If the forceps have not a good grasp of the head, the traction force must be weak. It is advisable that Smellie's rule be observed, which requires that the application be made to the sides of the child's head, so that the grasp may be in the biparietal diameter. A rigid grasp of the head is usually contraindicated, because the natural mechanism is hindered, and compression force obtained from the blades applied in relation to the lateral walls of the pelvis is usually in the direction least needed. Usually, if the operator will introduce his hand sufficiently far enough to find the direction of the rim of the posterior ear, thereby positively diagnosing the position of the head, and follow with a slow and careful introduction of the blades, little difficulty will be experienced in the cephalic application.

To secure every advantage of the tractile force, its direction must necessarily correspond with the axis of the birth canal. The line of least resistance must be followed closely. With the long forceps, the mid and the high operation is frequently very difficult, because of the shape of the birth canal the forceps will not permit of force being exerted in the axis of the superior strait. Tarnier demonstrated that a force of forty pounds employed in an ordinary high forceps application would be divided into a force of thirty pounds directed in the axis of the superior strait, thus promoting descent, and another of twenty-six pounds directed against the symphysis pubis. This latter force is not only lost, but certainly retards delivery. The axis traction attachment, if correctly used, is here of utmost advantage, since it enables the exertion of force in the correct axis, which is a straight line passing through the umbilicus and the tip of the coccyx. Traction is to be made with the arms only, and the duration of each pull and pause should last about one minute each, the forceps being unlocked during the pause.

There are three postures obtaining when the forceps are to be applied, viz: The lithotomy, the Walcher, and the dorso-convex. The sacro-iliac joints have considerable mobility, and the sacral promontory is in a plane above and in front

of the axis of rotation. The forward and backward movement of the promontory, with the movement of the sacral tip in the reverse direction, is in accord with the changing inclination of the pelvis.

Therefore, when the extreme lithotomy position is utilized, the conjugate diameter is shortened, making this position the choice for extraction at the outlet of the bony pelvis. The effect of the Walcher position is to lengthen the conjugata vera. Kutner observed in one case a gain of 1.4 centimetres. This position is of great advantage in the class of cases where engagement fails to take place after the cervix is fully dilated, because of contracted pelvis or large fetal head, and also in every high application until the largest circumference of the head has passed the brim.

The dorso-convex position obtains when the patient lies upon the back on any yielding surface. Therefore, since the bed, with the patient's weight upon it, destroys the correct pelvic axis and does not permit of full modifications of the pelvic diameters, removal should be made to a table whenever the forceps operation presents the least difficulty.

In obliquely posterior positions of the head which have resisted all attempts to rotate the occiput to the transverse position, a difficult delivery is presented. In these cases the small fontanelle will usually be found directed towards the right or left sacro-iliac synchondrosis.

The first and important step is to rotate the sagittal suture into the antero-posterior diameter. This is best accomplished by Scanzoni's manœuvre, which applies the blades to the sides of the head with the pelvic curve directed towards the child's face. Then rotating the occiput through an arc of 135 degrees to the symphysis pubis, in which position the pelvic curve of the forceps is now directed posteriorly, a reapplication should now be made for ease of delivery and safety of the perineum.

The problem in all posterior positions is that of good flexion which, if maintained from the entrance at the superior strait to the exit at the inferior strait, there will be but a little more difficulty than with anterior positions. Reynolds (1) says: "There is no variety of labor in which easily avoided ill results are so commonly incurred as in posterior positions of the vertex."

After occiput posterior positions of the vertex an exaggerated inclination of the pelvis is the most frequent cause of delayed labor. Transverse positions at the brim are more frequently due to the excessively inclined pelvis than to a shortened conjugate.

An important essential in facilitating labor is, that the axis of the uterus approximate a right angle with the pelvic brim. A pendulous abdomen may cause the fundus to bend decidedly forward and away from the proper axis. In cases of excessive lumbosacral curve the fundus is inclined posteriorly by the adbominal muscles, making an excessive sacro-vertebral angle which interferes with flexion of the head, thus causing a presentation of the longest diameter of the head in the oblique pelvic diameter.

The use of the forceps on the after-coming head is very properly being avoided according to most recent writers. Willlams (2) says: "It is never necessary to resort to the forceps under such conditions." If the head is in the superior strait, the application requires so much time that the child's life is in great danger of asphyxiation, which, according

to Williams (3) is inevitable eight minutes after the appearance of the umbilicus at the vulva. The rapidity necessary in extraction causes a great liability of injury to the soft parts of the pelvis, and the lower application of the blades upon the head frequently causes pressure upon the stylo-mastoid foramen, with resulting facial paralysis.

The Mauriceau, or Prague, manœuvre of extracting the arrested after-coming head should exclude the forceps in practically every case.

SUMMARY.

Some of the difficulties in the use of forceps, then, are solved, or made easier, by:

(1) The cephalic application in all high and medium positions.

(2) A careful effort to have traction always exerted in the axis of the birth canal.

(3) The axis traction instrument in high and medium applications.

(4) Correction of the dorso-convex position for the Walcher if the vertex is about to engage at the pelvic brim, or for the extended lithotomy if ready to emerge from the pelvic outlet.

(5) Rotation with double application of the forceps in occiput posterior positions.

(6) The approximate correction of errors in the uterine and pelvic axis.

(7) Elimination of the forceps in extraction of the after-coming head.

REFERENCES.

(1) Page 499, Vol. II, American Text-Book of Obstetrics.

(2) Page 378, Obstetrics, Williams.

(3) Page 381, Obstetrics, Williams.

(4) Gillespie. *The American Journal* of Obstetrics, January, 1903.

THE MANAGEMENT OF SMALLPOX IN HOUGHTON COUNTY WITH REPORT OF 288 CASES.*

W. H. MATCHETTE.
Hancock.

During the past few years no one subject has interested the profession and laymen more than that of variola, and as a fitting tribute to crown the vast store of our present knowledge, comes the announcement by Dr. Councilman of the discovery of the long searched for protozoa. In China Porter Smith tells us that smallpox dates from the reign of the first emperor of the Han dynasty A. D. 25-28 and is said to have been imported from some part of Central Asia by Chinese troops returning from a campaign.

In A. D. 622 we again read of the diffusion of smallpox eastward and westward by the Saracen armies, led forth to conquest by Mahomet, and so to-day the United States is still combatting the spread of this disease, which after many years of comparative absence has been again ignited by the returning troops from Cuba; but thanks to the immortal Jenner, if Lord Macauley were alive to-day, he would not describe this epidemic as he described the ravages of smallpox in writing of the death of Queen Mary in 1694.

"The havoc of the plague has been far more rapid, but the plague had visited our shores only once or twice within living memory, and the smallpox was always present, filling the churchyards with corpses, tormenting with constant fears all whom it had not yet stricken, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to the lover." In fact the type of the disease is so altered that in many places it has been termed Cuban itch, chickenpox, waterpox and what not only the State board of health can say.

Smallpox was first discovered in

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Houghton County in July, 1900, the case being that of a saw-mill employee, taken sick at Dollar Bay. Steps were immediately taken for his isolation, but shortly afterward other cases were discovered in Hancock and Houghton and in lumber and railroad camps back of Houghton. A little later cases developed in Calumet. Several cases succeeded these outbreaks during the following two months, and enormous bills were presented to the county board of supervisors in October for payment. These bills had been authorized and allowed by the various village and township health boards and represented expenses for maintenance of separate pest houses as well as direct and in many cases consequential damages for quarantined inmates of infected houses. The board of supervisors on investigation found they had no alternative under the present law but to reimburse the various villages and townships for the money expended. However, realizing that at the rate bills were coming in and the general prevalence of the epidemic throughout the county, something would have to be done, as the health boards were acting individually and not aware of their aggregate expenses.

Accordingly at the November meeting of the board, a county physician was appointed to look after all cases of smallpox occurring in the county, and a county detention hospital was ordered built at once, centrally located and at a cost of about $2,000. Later however the hospital was found to be inadequate and additions, steam-heat and water-works were added at a total cost of about $10,000. So that to-day Houghton County has one of the best detention hospitals in the state.

A little later trouble arose over the legality of this act, some of the local health boards maintaining it to be unconstitutional. Accordingly the following bill was framed and passed by the legislature which was then in session:

Local Act of Michigan, Session of 1901

No. 460. An act to authorize the County of Houghton to construct or purchase, own or maintain one or more hospitals, pest houses or quarantine buildings and to provide the means for constructing or purchasing, maintaining and managing the same, and to legalize the action of the Board of Supervisors of the County of Houghton in constructing a building for the use of a hospital and pest house.

The people of the State of Michigan enact:

That the County of Houghton is hereby authorized and empowered to purchase the necessary lands and erect thereon, or otherwise provide one or more hospitals, pest houses or quarantine buildings within the limits of the said County of Houghton and to provide for the appointment of the necessary officers, attendants or employees for the care and management thereof, and for the care and treatment therein of such sick and diseased persons as the Board of Supervisors of the County of Houghton shall deem proper and by the direction of said Board of Supervisors or the county physician, persons having any malignant, infectious disease, may be removed to such hospital, pest house or quarantine buildings, and there detained and treated, when the public safety may so require, and the said Board of Supervisors may provide such restraints and punishments as may be necessary to prevent any such person from departing from such hospital, pest

house or quarantine grounds until duly discharged.

Sec. 2. The Board of Supervisors of Houghton County shall also have and exercise within and for the County, all the powers and authority conferred upon the Board of Health by chapter 46 of the compiled laws of 1891 and all amendments thereto, being chapter 39 of Howell's annotated statutes of the State of Michigan, so far as the same are applicable and consistent with this act, and they may enact such rules and regulations as may be proper for regulating the proceedings and mode of exercising such powers and authority.

Sec. 3. The action of the Board of Supervisors of Houghton County taken and had at the October, November and December, 1900, sessions of said board relative to the construction and maintenance of a building for the use of a hospital and pest house, and the same is hereby declared to be in all things legal and valid forever after the passage of this act. This act is ordered to take immediate effect.

Approved May 31st, 1901.

The method then employed was for all health officers who had cases of smallpox reported to them to immediately report to the county physician who would take charge. The cases were almost all removed to the hospital, the exposed inmates vaccinated and the premises quarantined for a period of sixteen days, and watchmen installed day and night. Houghton County industries being mining and lumbering, it will readily be seen that they attract a large number of foreign laborers, this class being made up mainly of Finns, Poles, Swedes, Canadian French and Italians, making up in all a large percentage of the population, more being in Calumet, where we have had the largest number of cases, and fewer in Houghton, where it has been the least prevalent.

These foreigners increased the difficulties of the health authorities in every way possible in stamping out the contagion by hiding their cases, not reporting, and their frequent intermingling. In a Finnish locality of Calumet a house to house investigation resulted in finding a large number of cases, some hiding in cellars, others in attics and closets. The whole district was quarantined and all cases moved to the hospital. The condition would have been more disastrous were it not for the fact that all the adult Finns had been vaccinated upon entering the country. The Canadian French gave us the same trouble by not reporting their cases, and not being afraid of the disease, they would rather shield a case than have it dragged off to the pest house as they expressed it, and be shut up themselves.

After the outbreak in the Finnish settlement had abated, we decided to do away with the subsequent quarantining of houses, in those cases when only families were affected. The patient to be immediately removed, the exposed members vaccinated, the house disinfected and the remaining members of the family allowed to go about their duties, an inspector to call each day for sixteen days to watch for any developments. This plan we found to work very satisfactorily, the people having got over the dread of the hospital, hesitated to report cases only on account of the quarantine.

However, upon learning that as soon as the patient was removed they would be given their freedom, they no longer delayed in reporting to the authorities, thereby assisting them in early removal of

the patient and disinfection of premises. Exposed persons vaccinated soon after exposure and given fresh air and sunlight were rarely subsequently stricken with the disease. Another item not to be overlooked is the saving of expense as a consequence of doing away with watchmen and supplies.

In the discussion of a paper, Jay F. Schamberg gave the experience of Philadelphia in the matter of quarantine. At the beginning of the present epidemic of smallpox, routine quarantine of from 15 to 18 days was imposed at each house where the disease was discovered. This was not found effective and was seen to have several disadvantages: (1) Exposed persons in these houses would escape before the quarantine was placed, and would thus spread the disease; (2) there was lessened incentive for patients to go to hospitals; (3) the method was very expensive. Later a quarantine of two or three days, with disinfection, vaccination and removal of the patient to the hospital was adopted with much better results.

The disease up to the present time has been of the universal type, comparing similarly to that in Chicago, Toronto and Montreal, the mortality being less than in the east. The following information concerning the number of cases and death rate will be interesting:

In Chicago	1900	1901	1902	1903 To April 1
Cases	54	276	339	161
Deaths	2	4	5	24
Cleveland	993	1232	1230	
Deaths	16	20	224	
Philadelphia ...	26	1159	1342	
Deaths	0	156	231	
New York City.	156	1964	1516	26
Deaths	12	410	310	2

In New York the death rate for the three years has been slightly over 20%; in Philadelphia, 15.3%; in Cleveland, 7.5%; in Chicago, 1.6%. During the first three months of 1903, however, the death rate increased to nearly 15%. In Houghton County for the three years there have been 280 cases with four deaths, or 1.4%; 259 of these have been treated at the hospital with one death. In the State of Michigan Dr. Baker informs me there were, in 1900, 694 cases, with nine deaths or 1.3% mortality; in 1901, 5,000 cases, with 27 deaths, or a mortality of a little over 0.5%. The compilation for 1902 has not been completed, but 41 deaths were reported. The marine hospital service reports give the following cases and deaths as reported to that office: In 1900, No. of cases, 20,362, with 819 deaths, or mortality 4%; in 1901, No. of cases, 48,206, with 1,127 deaths, or mortality 2.3%; in 1902, No. of cases, 54,014, with 2,083 deaths, or mortality 3.8%.

The mildness of the disease in this section of the country has added to the difficulty of stamping out the contagion. In our own county numerous cases have been discovered merely by accident, the patient not being indisposed enough by the prodromal symptoms to summon medical aid and the number of lesions being so few as to excite no suspicion.

Nevertheless we have at hand a powerful weapon in vaccination which, universally wielded, will reward us with excellent results. Still, even here we are hampered by the antivaccinationist, who, could he have a similar experience to Dr. Pfieffer of Boston, would soon result in a good riddance of these moral lepers. I would refer here to the excellent pamphlet compiled by the Chicago department of health entitled "Vaccination Creed." The rule given in the Creed is "Repeat Vaccination until the susceptibility to vaccine

is exhausted." Not one of the 727 cases of smallpox discovered in Chicago within the last four years was found vaccinated as defined in this rule. In my own experience of 280 cases, 240 had no scar of successful vaccination, 27 faint scars of several years previous, seven fair scars all dating back 20 to 40 years, and six vaccinia concomitant with smallpox, the vaccination taking place too late for protection. Not one of the cases vaccinated according to the Creed, while on the other hand of a number of nurses and attendants vaccinated as described above not one has developed smallpox.

In Houghton County a large percentage of cases has been foreigners. The Scandinavians and Canadian French being more susceptible and together with other foreigners making up 59 per cent. of the 280 cases, 26 per cent. being Scandinavians, 23 per cent. Canadian French, 41 per cent. Americans, 10 per cent. miscellaneous foreigners. The disease also assumes a more virulent type among the Finns and French. Males and females are about equally susceptible. However, in my series 60 per cent. were males, but this is accounted for by the intermingling of men, rendering themselves more liable to exposure. Smallpox is a disease of young adult life, strking the strongest and often passing over the weak and sickly—33 1/3 per cent. of my cases were between the ages 21 and 30 and this decade has usually the greatest number of severe cases, 29 per cent. under 10. This large percentage is due more to the fact that the majority of children are unvaccinated, but with the exception of infants the disease takes on usually a very mild form, 27 per cent. between the ages of 11 and 20 years, 8 per cent. between 31 and 40, while between 40 and 50 only 4 cases, and one patient each at the age of 60 and 70 years respectively.

Smallpox is a typical infectious disease and for convenience of description is divided into 5 stages: (1) Incubation; (2) invasion; (3) eruption; (4) secondary fever; (5) dessication and desquamation. The period of incubation is usually given as 12 days, meaning from the time of exposure to the beginning of earliest symptoms. This however is often very vague and in smallpox the first appearance of the eruption I think would be more satisfactory. Among the cases, I wish to cite a few who were known to have had only short and well defined exposures. Miss E., Archie, and Miss T., were exposed November 2nd, 4 P. M., for about one hour in a neighboring town to a boy shortly afterwards found to be suffering with smallpox at the fourth day of his eruption. All three had never been vaccinated and took sick on November 14th and broke out on the morning of November 16th, or 14 days from exposure to appearance of eruption.

Mrs. N. Never vaccinated, exposed across the city during a short visit to a boy afterwards found to be at 8th day of eruption. She states she scratched some of the lesions for him and may possibly have inoculated herself. At any rate the exposure being on the afternoon of November 8th, her eruption first made its appearance on Nov. 18th in the evening, her temperature that morning reaching 104.5°. Next morning she was well covered and her temperature registered 101°. She first took sick on Nov. 15th, or seven days until beginning of prodromal symptoms, and ten days until appearance of rash.

Mr. D. and Miss M. Never vaccinated. Exposed for a few minutes on the evening

of Aug. 5, while calling on girl afterwards found to have been sick at 8th day of eruption. Both cases broke out on the morning of Aug. 21st, or 15 days from exposure to eruption. In studying these exposures it is a curious fact that in the first and third cases when more than one was exposed the disease made a simultaneous appearance in each.

In the second case the shortness of the period might be accounted for by the inoculation. However, the customary two weeks is most always found as the time elapsing from exposure to the appearance of the rash. I am convinced that most cases acquire the disease from inhalations and the danger of communicating the disease is not very great until about the second or third day of eruption when it becomes highly communicable. I draw this conclusion from observation of cases exposed from the beginning and later counting back 14 days, the average time elapsing for incubation, brings it to 2d or 3d day of the eruption in the exposing case. The fact is again noticeable that cases removed early after appearance of rash seldom convey the disease to others.

Another illustration of these facts was seen in that of a case taken sick in a boarding house in one part of the county and after recovering from the initial fever and after the appearance of the eruption left for Calumet where he started on a spree. That night he and his companion spent at a brothel, and next morning started on a round of the saloons when he was apprehended. Fourteen days later his companion and three bartenders broke out with the eruption. No cases occurred in the boarding house where he was first taken sick and none in the house of ill-fame; here however, the two inmates had successful vaccination scars. The four subsequently stricken broke out at the same time or just 14 days later. This also shows the highly contagious character of the disease.

The prodromal symptoms, while fairly constant, are not diagnostic of smallpox, and in many of the cases were diagnosed as typhoid fever, grip and appendicitis; so striking was the latter similarity that one case was operated on twenty-four hours after the onset, a temperature of 103.5° continuing for 36 hours longer when it dropped to normal, with the appearance of the rash. The prodromal symptoms set in suddenly with chills and headache and pains in back and legs. A tolerably constant symptom is a pain in the pit of the stomach with or without vomiting, the temperature may rise rapidly to 105° or 106° in serious cases, but usually 103° to 104° is the maximum. On the morning of the third or fourth day the temperature drops in mild cases to normal, in confluent seldom touching normal but remaining at 100° or 101°.

Simultaneously the rash makes its appearance on the exposed or more vascular parts of the body, passing in a few hours from macules to papules presenting their characteristic shotty feeling in which two or three days exudation of serum takes place and the papule is transformed into a vesicle and by the fourth or fifth day is as large as a split pea, hemispherical in form, covered by thick covering of skin containing within an opalescent center. About the sixth or seventh day the contents are purulent and umbilication which begins early in the vesicular stage is quite removed by filling of its chamber with purulent contents.

This is the usual course seen and described in typical cases of smallpox, but in this epidemic I have seen cases ranging

from variola sine eruption, which I am positive exists, and cases when only one lesion on entire body has been found, to confluent fatal cases. Many of the mild discreet cases in this epidemic are greatly modified. In some the lesions dry down from the early vesicular stage with later a round dry scab surmounting the lesion. In fact any degree betwen smallpox without eruption to confluent type has been seen in this epidemic.

In the diagnosis too much stress is laid, by one not accustomed to seeing smallpox, on individual points, as "shotty feeling and umbilication" instead of the general history of the case. In all degrees of smallpox a clear concise history can be had which is typical of the disease. Two or three days of preceding malaise, which even the patient often calls the grip, followed by a cessation of all these symptoms and the appearance of the pimples which excited suspicion. In mild cases there will be no secondary fever and the patient declares himself completely recovered. In differentiating from other disorders it is always well to examine the vaccination scar, as this is also an admirable index as to the nature of the trouble in question.

Chickenpox and smallpox can be very easily differentiated even in adults. I have seen three cases of chickenpox in adults and they offer the same characteristics as in childhood. The thin skin irregular in outline covering the lesions in chickenpox produces an entirely different picture from the thick covering of the perfectly round smallpox lesion. Another point here to remember is that in smallpox the lesions are more numerous on exposed than unexposed portions of the body, and again the history of the early appearance of the rash in chickenpox with no drop in the febrile condition.

No other disease offers enough similarity to smallpox to cause any indecisiveness. The treatment of smallpox has advanced many theories for the prevention of cicatrization. In my opinion it would be extremely hard for any one to draw any deduction as to the probable effect of any line of treatment in this epidemic. In cases confluent in degree desquamation takes place without scar formation, while on the other hand the lesions of a very discreet case may leave deep cicatrices. The majority of cases in this epidemic recover without any permanent marks. It has been my custom in almost all of the cases to use a strong bichloride wash with fair results.

Finsen's red light treatment I have had no experience with, but as only a few cases are extremely severe and many confluent ones recover without any permanent marks, it would be difficult to attribute success to any one measure.

ELECTRO-PHYSICS AND THEIR APPLICATION TO THE SCIENTIFIC TREATMENT OF DISEASE.*

C. L. BARBER,
Lansing.

Electro-Physics is to-day the foremost topic of discussion among scientific progressive medical men.

The achievements in electro-therapeutics the past five years surpasses in wonder and brilliancy those of any like period in the history of medicine.

The recent discoveries in the laboratories of physiologists, chemists and biol-

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ogists will necessitate, I predict, the rewriting of a portion of our physiologies, materia-medicas and therapeutics.

The close of this decade will see more wonderful things done with that subtle force, electricity.

The study of electro-physics discloses the most scientific reason for the work done in electro-therapeutics.

Seven years only has the mind to go back to that secluded University of Wurtzburg which heralded the discovery of Prof. Roentgen's magic ray that can lay bare the interior of our bodies and render solid substances as transparent as glass. The man of science marveled not less than the man on the street.

Over a hundred years ago Galvani demonstrated to the world that the muscles of a dead frog's leg could be made to contract by stimulating the nerve with an electric current, and physiologists have worked ever since to learn why a muscle contracts or beats rythmically. Life, that property God has given the individual cells of our mechanism, is the force. Now, what is life?

Physiologists have found that by changing the chemical relation of the solution in which a piece of muscle is placed, that muscle or a heart may be made to beat rythmically as well as accelerated or retarded and thus enable one to play with life, so to speak.

In chemistry we are taught that there are seven valances or combining powers or elements—monad, diad, etc.,—and each element combines with some other element to form a molecule according to its valance.

It is now known that that combining power of the atoms of different elements to form compounds is an electrical force, or pull, if you please.

In H_2O, oxygen has two pulls when hydrogen has only one—and water is formed by one atom of oxygen attracting two atoms of hydrogen.

Physiologists agree that there is no complex structure in the germ-cells from which the lower order of animals spring, but their varying forms are simply a reaction between a specific kind of protoplasm and the physical forces of light, heat and chemism which mold it this way or that.

In their laboratories the new science, "experimental morphology," has been born; but the secrets of life lay deeper. If the upper part of a jelly fish be cut off the rythmical contractions cease. Then, if the beheaded animal is placed in a solution of common salt they begin again.

A little potassium or calcium added and the contractions stop again.

An excised heart can be kept beating for hours, stopped, started, quickened or slowed simply by changing the chemical character of the solution in which it is placed. The same way the muscle of a frog's leg can be made to beat in rhythm.

It is now clear that the beat of the heart is not due to the mysterious action of some more mysterious nerve, but that it is due to the presence or absence of a quantity of certain salts.

A new chemistry steps in to show how this is done.

A lump of salt dissolved in a dish of water makes that water a conductor of electricity. An electric current can be started by dipping the two ends of a copper wire therein.

A lump of sugar has no such effect. This was the mysterious problem in chemical phylosophy until the distinguished Swedish physicist, Arrhanius, demonstrated that molecules of salt and acids

are forced apart, when dissolved, with tremendous force.

The effect in dissolving the salts is a terrific electrical charge on the individual atoms.

In separating these atoms one set is charged positively and one negatively. In sodium chloride, the metal atoms sodium take the positive charge and the chlorine atoms the negative.

Long before their nature was understood Faraday named the electrically charged atoms, "Ions."

This simple conception has revolutionized chemistry. Arrhanius says, "It is the ions that act. It is the ions that cause the heart to beat or a muscle to contract. The positive charge stops them, the negative sets them going." This is the most important discovery, says Prof. Loeb, of his life. The ultimate cause of muscular action, if not all life processes, is electricity. The burning question of biology is the "beginning of life."

Dr. Loeb says, "While studying the effect of salts upon life phenomena I was led to the fact that the peculiar actions of protoplasm are influenced to a great extent by the ions contained in the solution surrounding the cells." By changing the relative proportions of the ions we change the physiological properties of the protoplasm. We are thus able to impart to the tissue properties which it does not ordinarily possess.

Pursuing this idea, Loeb was able to develop unfecundated eggs in a solution of chloride of magnesium.

A study of these novel reactions. The heart that may be stopped or started with a pinch of this salt or that, the muscles that may be made to beat like a heart; the unfertilized egg that may be vivified by chemical means, reveals the common chain that binds them all. Starting with the hypothesis that electricity is a persistent force, which is a part of the atomic structure of matter, and is the vital force so far as the seventy odd elements now known are concerned, constant and without variance, each element endowed at all times with a constant electrical pull, its presence is made known by its attracting and repelling phenomena; each element bearing a definite relation one with the other, in proportion with their electrical pull or combining power.

This constant electrical pull, which is a vital part of the elements associated with a definite rate of oscillation, gives to us the various forms of matter known as compounds.

Berzelius in his electro-chemical series classifies fifty-six elements in relation to their electrical pull. The two extremes will separate any intervening elements when they are arranged in a compound. Every one knows that the positive end of a magnet will repel the positive end of a compass needle, but attract its negative end. Also, that the reverse is true. The same thing takes place in a molecule of sulphuric acid (H_2SO_4).

The H is the electro-positive, the S and O electro-negative. The attraction or electrical pull between hydrogen, sulphur and oxygen. Why it requires two parts of hydrogen, one of sulphur and four of oxygen to form a molecule of sulphuric acid is due to its harmonic condition plus the electrical pull. We do not speak of chemical compounds, but say elements are associated to form compounds. H, S, and O are associated in the proportion of 2, 1 and 4 to form a molecule of sulphuric acid. Now introduce an atom of zinc and see what takes place. There is at once

a dissociation of the atoms of the molecule of sulphuric acid—like the positive point of the magnet repelling the positive end of the compass needle, the zinc repels the hydrogen and attracts the sulphur and oxygen, the electro-negative's radical, and zinc sulphate is formed. This change as well as all others produced by the aid of electrical energy in solution is called electroylic and the process electrolysis. When a direct current of electricity is applied to the body electrolysis ensues, producing a continual dissociation of the elements of the body along the line of force during its application.

Ions are the product of electrolysis. The stronger the current the more ions produced. The ions evolved at the positive pole or anode are termed anions, those at the negative pole, or cathode, cations. A current of electricity renders the parts through which the lines of force pass aseptic, by virtue of the ozone developed. Ozone is the most powerful germicide known and the integrity of the whole body is due to its presence in the system. Ozone is neutral in reaction and enough of it in the system will destroy all pathogenic germs.

The accumulation of ions at the cathode or cations have an alkaline reaction while the anions have an acid reaction. The two poles are often designated the alkali and acid poles, and if the current is sufficiently strong to produce vessication the effect of the local cautery at the negative pole is similar to that of an alkali (caustic potash) and the one at the anode similar to that of an acid (hydrochloric acid). In the polar region we have two forms of reaction, which are purely local, having a varied effect on pathogenic microbes; some microbes that thrive in acid medium will be destroyed in alkaline medium and vice versa. Any form of a microbe that can be destroyed by an acid can be destroyed by the positive pole of a galvanic battery, and those that require an alkali will succumb to the negative pole. At the anode the circulation is diminished, at the cathode it is increased. At the anode the tissues are dehydrated, at the cathode they are hydrated. At both poles albumen is coagulated, at the cathode slightly, at the anode to an extreme degree.

The anode is an acid cautery, the cathode an alkaline one. The acids accumulating around the anode will destroy a large number of pathogenic germs, the cathode will destroy the rest of them.

An infected wound may be successfully treated by the use of a direct current. What pole should be used as the active one should be determined by the nature of the infection.

Erysipelas can be successfully treated by using the anode over the affected part. It will prevent the disease spreading and when properly applied will destroy the streptococcus with its acid cautery and at the same time dehydrating the tissues.

Boils, carbuncles and abscesses can be aborted with the anode or ripened with the cathode. Inflammatory exudate in the lungs, liver and pelvic cellular tissues can be disorganized and eliminated by electricity.

Congestion or anæmia of the various organs of the body are successfully treated if the laws of physiology and electrophysics are understood.

Nevi, warts, moles and superfluous hairs are easily removed.

Many forms of paralysis, hysteria, neurasthenia, all of the functional and many of the organic diseases of the nervous system can be and are successfully treated with some form of electricity.

Static electricity is governed by the same physiological action and is capable of a greater diversity of application than either the galvanic or faradic current.

Static electricity has wonderful potentiality, but small volume.

The physiological effects of static electricity are chiefly modifications of the ordinary vital processes without electrolytic alterations.

It may increase, diminish or otherwise modify all the functional processes. It effects secretion, excretion, absorption, elimination, circulation, respiration, sleep, reflex action and nutrition.

Owing to its enormous electro-motor force and power of condensation it possesses great diffusiveness which enables it to affect the entire system.

It tends to regulate the heart action and equalizes circulation. It is a wonderful menstrual regulator. It increases metabolism, allays nervous irritability, produces sleep and increases nutrition, which is a vast power for good in many morbid states, as gout, rheumatism, neurasthenia, neuralgia, anæmia and various symptomatic derangements.

The static spark sets up a wonderful molecular change and acts as a stimulating massage, disperses exudative material and strengthens the nerves. It will disperse pain, local or general, or reflex. It excites the cells of the human system in such a way that their inherent energy is liberated and functional action excited. The list of diseases in which static electricity can be beneficially employed is a long one. Its great field is in nervous, psychic and functional conditions. Nothing equals the static breeze to dispel apprehensive forebodings and psychic phenomena found in every chronic case whether it is real or imaginary. It is invaluable in muscular rheumatism, chronic synovites, chorœa and the curable forms of paralysis as well as headache and spinal irritation.

The X-ray has been used the past five years with success that borders on the phenomenal in cancer, tuberculosis, skin and joint affections, neuritis and visceral diseases.

The X-ray is an electrical force of wonderful potentiality, causing tremendous vibration of the molecular structure sufficient to kill many forms of pathogenic microbes, yet stimulating the function of normal cell tissue.

In the diagnosis of many diseases, fractures, dislocations, gall stones, renal and vessical calculi, the locating of foreign bodies, as pins, needles, bullets, pieces of steel in the eye, diseases of the bones, nerves or viscera, where structural changes have taken place, its aid is incalculable.

A STUDY IN CASES ILLUSTRATING POINTS OF DIAGNOSIS IN OBSCURE APPENDICEAL DISEASE AND OTHERS SIMULATING APPENDICITIS.*

H. W. LONGYEAR,
Detroit.

The knowledge of the subject of acute inflammation of the vermiform appendix has been so thoroughly disseminated among the profession during the past decade, that now the veriest tyro in the practice of medicine will hardly fail to make a diagnosis of a simple case; in fact, he is now so eager to let no guilty appendix

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escape that his diagnostic judgment is sometimes warped thereby and other conditions mistaken for appendicitis.

The cases which often puzzle the specialist, as well as the general practitioner, are those of a more or less obscure nature necessitating a differential diagnosis, which frequently requires much clinical experience and the application of laboratory tests to make satisfactorily. It is the purpose of this paper to discuss briefly some of these conditions which have come under the writer's notice, besides citing a few typical cases by way of illustration.

The cases to be considered will be of two varieties, viz: (1) those cases in which there is present real appendiceal disease, though of a subacute or chronic character and attended by symptoms more or less obscure; and (2) those cases in which there are present symptoms closely simulating those of acute appendicitis, which are caused by other pathological conditions and in which disease of the appendix is not present.

The symptoms attending many cases of obscure appendiceal disease are frequently of such a mild character, being often free from rise of temperature or other symptoms denoting an inflammation of the organ, or septic absorption from it, that the cases are usually treated for a long time for other affections, such as intestinal indigestion, neuralgia or rheumatism, acute indigestion, etc., before the true nature of the trouble is suspected, and even then the diagnosis is usually forced upon the physician by the fact that the attacks having become more and more severe, the appendix is at last laid hold of.

The symptoms are, principally, recurring pain and tenderness in the right side of the abdomen, the attacks being usually of a fleeting character but tending to increase in severity with each recurrence. Many of these cases seem to be unattended by a rise of temperature, but careful observation will usually discover that there is a slight febrile action at some time each day during an attack. When these slight fleeting pains are of daily occurrence for a protracted period, the patient will frequently exhibit a normal, or subnormal morning temperature, and a slight rise—one-half to one degree—in the evening. Such patients who are subject to frequent attacks usually lose flesh slightly, become somewhat anæmic, dyspeptic and nervous. In fact, they usually say they are "run down," and apply to the doctor for a tonic, and some questioning is often necessary to bring out the fact that there is any abdominal trouble in the case. Many of these patients complain only of frequent attacks of colic, more or less severe, the pain at times being localized in the right iliac region, but more frequently it cannot be localized, the whole abdomen partaking more or less of the distress. When such a case is unattended by rise of temperature, and the attacks of pain are of a very transient character, the true nature of the disease is very liable to be overlooked until the appendiceal colic, which denotes only an irritation of the appendix, and not an inflammation of the organ, has passed on into a true inflammation by reason of the resultant progressive pathological changes.

The pathology of the appendix in these cases is varied and interesting. Perhaps the simplest affection of the appendix which causes symptoms is the sharp angle, or kink, caused by an adhesion doubling the organ up and bending it sharply back upon itself, causing a mechanical difficulty in the evacuation of its contents—hence the pain of attempted expulsion when the distal end becomes distended with mucous,

or a fecal concretion, or other foreign body, becomes lodged in it. This condition is the one most liable to cause frequent attacks of slight appendiceal colic unattended by chills or appreciable rise of temperature, and in which sensitiveness to pressure is usually absent between attacks.

A simple catarrh of the appendix is probably the most frequent cause of obscure appendiceal symptoms, and when it exists without the presence of a proximal contraction of the lumen of the organ the symptoms will be mild. A slight daily rise of temperature will be noted; the characteristic pain may be slight, but the sensitiveness to pressure will usually be present in a moderate degree both during and between attacks; no indurated tumor will be discovered, but the sensitive and somewhat hardened, cord-like appendix may be palpated through an abdominal wall that is not too fat.

In cases of this variety, which often continue for years, the surrounding lymphatics are liable to become infected, enlarged and tender; the appendix may be long or very short; its canal narrow and tortuous, or wide and funnel shaped; its walls will be thickened and hard and of a cicatricial character, all muscular contractility of the organ being lost. Occasionally this form of appendicitis, when long continued, results in a complete obliteration of the canal, either wholly or in part of its length, and then we have the "appendix obliterans" that was first described by Senn. Where the obliteration occurs only at the proximal end the resultant collection of mucous or other material at the distal extremity usually gives rise to continuous symptoms of appendiceal irritation, and if the contents of this sacculated portion be not sterile, the more positive symptoms of appendicitis will develop, the severity of the manifestations depending then upon the variety and toxicity of the imprisoned germs. When the distal end is closed the opposite effect is produced, the irritation decreases, and a spontaneous cure is sometimes the result.

The tendency of the majority of all these cases of mild appendiceal irritation, I believe, is toward relapse and increase of symptoms, causing the patient to be constantly in danger of an attack of acute appendicitis, so that they should be watched with great care and the appendix removed as soon as it can be determined that the symptoms are increasing either in frequency or severity. An attack of positive inflammation should not be waited for, but if such occurs the operation should be made at the earliest possible moment. The diagnosis is then positive and the danger insignificant. The following three cases illustrate these forms of appendiceal disease.

Case 1. (Sent to me by Dr. McLarty, of Manistee, Sept. 30, 1896.) Miss M. age 17, student. Menstruation regular since 13, painful, and every three weeks, for two years. When six years old had suppuration of inguinal glands of both sides. No tuberculosis in either side of family. Never had any kind of acute disease of abdominal or pelvic organs. Had been treated for intestinal indigestion for the last eight months, during which time she had steadily lost flesh. Said her complaint from the first had been of frequent attacks of collicky pain in the right side of abdomen, running down the inside of the thigh, which were apparently brought on by taking food.

Lately complained of backache, a feeling of "bearing down" across the abdomen when standing or walking and a sense of fullness and nausea, as though menstruation were coming on. At times

has pain in the left side. Micturition frequent when awake. Cold feet causes the pain as also does the act of defecation. Bowels irregular. Pulse 80; temperature 98°; urine normal.

Phys. Examination: Abdomen not sensitive to touch, excepting at McBurney's point, where there is a small area of tenderness and a small movable body can be palpated at this point. No general tenderness, and no"board like feel" to the muscles of this side of the abdomen. Vaginal examination shows cervix large, uterus small and in normal position; both Fallopian tubes sensitive but not enlarged. Left ovary of normal size prolapsed and situated behind uterus, easily replaced.

Oct. 5th. Has had several daily attacks of pain in the right side of the abdomen since last seen (5 days). Temperature 97.5°; pulse 76.

Oct. 9. Has had pain all over abdomen. Tenderness still at McBurney's point, but not increased. Provided patient with thermometer, with inctructions to use it morning and night.

Oct. 13. Temperature record shows a subnormal register in the forenoon, and a temperature of 100° between 4 and 8 o'clock P. M. One day the morning temperature was 100°.

Oct. 19. Patient just ceased menstruating, period being exceedingly painful during the first 24 hours. Has had slight chills every night. Temperature still 100° at night. Other symptoms the same. Loss of body weight is continuous and becoming noticeable.

The above observations were made at the office, the patient being up and about and not incommoded in any way except during the few moments of an attack of pain. At this time an exploratory operation was advised, as it was evident that there was present serious disease inside the abdomen—probably the appendix, but possibly the beginning of a tubercular peritonitis.

Oct. 22. Drs. E. L. Shurley and W. P. Manton saw the patient with the writer and concurred in opinion and recommendation for an abdominal section.

Oct. 24. Abdominal section at Harper Hospital. Median incision; uterus and appendages normal. The appendix was brought out with some difficulty, owing to its very short mesenteric attachment, which had become contracted in such a manner as to double the appendix sharply upon itself at its middle portion. The organ was six inches in length and contained fecal concretions in its distal end, while its proximal end was empty and the lumen very small. No pus was found and no appearance of inflammation about the appendix. It was amputated and the abdominal wound closed with buried kangaroo tendon sutures. Recovery was uneventful, and patient was discharged Nov. 14, 1896. Reports from the patient two, and six months later, both showed her to be in perfect health, having regained her flesh and had no return of pain or fever.

Case II. Mrs. S. Aged 34. Married eight years; no children. Been losing flesh for over a year with symptoms of intestinal indigestion, which had increased in intensity during the last six months before the writer saw her; her physician, Dr. C. G. Jennings, reported that she had had several very mild but distinct attacks of appendiceal pain, which were accompanied by a slight elevation of temperature and some tenderness at the McBurney point.

March 9, 1896, Dr. Jennings called the writer to see the patient, who was then well over her last attack and was up and about the house. Pulse was 86; temperature 99.2°; no pain; no "board like feel"

on the right side of abdomen, but a little tenderness at the McBurney point could be elicited; no tumor or induration to be felt.

Operation at residence March 11, 1896. Lateral incision. No adhesions, and appendix readily found and drawn out and amputated. During the amputation a peculiar "shot like" feel to the surface of the meso appendix was noted, and examination showed this to be due to the enlargement of a number of lymphatic glands which were confined to the tissues in the near vicinity of the appendix, and did not extend to other parts of the peritoneal cavity. The appendix was exceedingly short, being less than an inch in length, was funnel-shaped, its bowel-end being large and open. The walls of the organ were very thick and unyielding to pressure, its mucous lining thick and spongy and of a grayish color, and its outside peritoneal coat was dark red and congested in appearance. The organ had apparently acted as a small cess pool, and enough absorption occurred through it to poison the lymphatics in its vicinity and so influence the general system. The patient made an uninterrupted recovery, and has had no further return of any abdominal trouble since. The enlarged lymphatics apparently subsided, although some anxiety was felt, fearing that possibly they might indicate some tubercular infection.

Case III. Miss M., aged 17, student, always the picture of health and very stout. Was treated for intestinal catarrh for two years, during which time the stomach would frequently reject food without apparent cause. Complained all the time of a tenderness in the right side of the abdomen and, at times, of a dull pain in the region of the McBurney's point. Temperature usually normal.

One year ago she had a mild attack of appendicitis, which was attended by a slight rise of temperature, an increase of the dull pain and tenderness in the right side of the abdomen. The febrile action subsided on the third day, and the patient was up and feeling as well as usual the next day. Following this attack, a summer at the sea-shore, with constant treatment for the intestinal catarrh, seemed to put the patient in very good condition, the abdominal tenderness disappearing to a great extent—not entirely—and the stomach behaving very much better, so that the patient was considered well enough to be from under the writer's care, and was sent away to school. Everything went well until last April, when a fall down stairs sent her home complaining of headache, backache and a slight aberration of vision. By the advice of Dr. R. W. Gilman, who was called in consultation for the eye trouble, she was sent to St. Joseph's sanitarium, at Mount Clemens, for a course of baths. This was interrupted at the end of two days by a sudden attack of appendicitis. Dr. Berry, of Mount Clemens, called the writer up on the morning of May 2, 1903, and reported that the patient had been suffering a good deal all night and she had a temperature of 100.5°. Immediate operation was decided on, and the writer was at the bedside of the patient within two hours, and, everything having been put in readiness by Dr. Berry and the very efficient trained nurses of the sanitarium, the operation was made without delay.

No difficulty was met with, excepting that caused by the excessive amount of adipose in the abdominal wall, with the operator's desire to make as small an incision as possible. The appendix was not adherent, but showed a congested condition of blood vessels on its surface. It was five and a half inches in length, small di-

ameter throughout, and of an exceeding hardness, being quite inelastic and incompressible, feeling almost as hard and unyielding as a clay pipe-stem. Further examination showed an exceedingly small calibre, especially at the proximal end, which, with the hardness of its tissue, indicated that it had been affected with an interstitial inflammation tending toward a probable obliteration of the canal in the near future. Doubtless the proximal end had been temporarily closed by congestion a number of times, and this last attack was probably caused in this way. There was no pus in the appendix, but there no doubt would have been in twenty-four hours more, if the intestinal end had been occluded for that time. The recovery of the patient was uneventful, and she has remained well since.

The other class of cases under discussion, viz: those simulating acute appendicitis, are those in which practically all of the symptoms and local manifestations of acute appendicitis are present excepting those produced by the local peritoneal irritation always present in acute inflammation of the appendix. The hard, "board like feel" of the right side of the abdomen will not be present, and tenderness on superficial pressure will be absent, but the deep pressure manifestations will be the same.

In the cases seen by the author, the symptoms have all been produced by attacks of intestinal toxæmia with irritation of the right ureter, the latter doubtless being induced secondarily by the systemic intoxication, with the consequent enormous elimination thrown upon the kidneys. The patient will usually be suddenly seized with a sharp chill, followed by high temperature, nausea and vomiting, pain, at first generally over the abdomen, and later in the right iliac fossa, where tenderness on deep pressure will be usually very marked. On careful observation it will be noted that this tenderness is not located alone at McBurney's point, but extends along the course of the ureter, and is not noticeable on superficial pressure.

Intestinal stasis has been the condition in the cases seen by the author, and it has occurred to him that this inactivity may be the cause of the serious nature of the attack, as it would favor the rapid absorption of the toxines being generated in the bowels. The urine will also tell a story, and should be very carefully examined. If early in the attack (say first or second day) very little sediment may be present, but the use of the centrifuge will get what there is, and in it there will usually be found red blood corpuscles with urates, uric acid crystals, and epithelium. The red blood corpuscles are especially significant of the ureteral irritation. Later in the attack (third, fourth or fifth day) the sediment will become very profuse, and can be readily examined.

As to treatment, the indications are for active elimination, both intestinal and renal, with uric acid solvents and intestinal disinfectants and some analgesic or hypnotic for the pain as indicated. The pain is at times so intense that nothing but a hypodermic of morphine will subdue it. The active symptoms usually persist for from three to five days, which usually ends the ureteral symptoms, but more or less intestinal disturbance, with some temperature, is liable to persist for a week or ten days more.

That these cases are not infrequently met with in the experience of the busy general practitioner there can be little doubt, but the condition having no definite name by which the peculiar group of symptoms may be recognized, its true nature is liable to be overlooked, hence, in lieu of a better term, the writer

would designate the pathological conditions described, as "toxic ureteritis." This appellation would call attention to the ureteral symptoms as being important, and so tend to differentiate it from the very similar pain in the appendix, and at the same time it would call attention to the toxic cause of the trouble—both important factors in indicating the necessary treatment of the condition.

The following four cases have come under the writer's notice, as consultant, during the last eight months:

Case I. Mrs. R., age 25. Seen with Dr. F. J. W. Maguire, Nov. 5, 1902. Had been under the writer's care for retroversion of uterus and movable right kidney previous to the attack.

Oct. 27, 1902, she was taken with several light chills, followed by fever, nausea and vomiting, and pain throughout the abdomen. For the first three days the temperature did not run high, but it then increased suddenly, and on the evening of the fifth day reached 105°. Pain in the right side began at this time, and, with the tenderness on pressure, extended downward, so that the attending physician was in doubt as to whether the appendix or the right ovary was the seat of the trouble. On the night of Nov. 4, 1902, the pain became very much worse and seemed to be centered so exactly at McBurney's point that Dr. Maguire thought it must be in the appendix, and called up the writer early on the next morning, and so stated.

On my arriving, later in the morning, the exascerbation of symptoms had passed, the temperature being only 100° and the pain considerably less. The whole abdomen was sensitive, somewhat tympanitic, but there was no "board-like feel" on the right side, and the sensitiveness was only on deep pressure and followed closely the course of the right ureter. No swelling could be felt in the region of the appendix, and vaginal examination was negative, the uterus and ovaries being unaffected.

The doctor reported the bowels had been very torpid, responding only slightly to mercurials and cathartics. A specimen of the urine was obtained and immediately examined. It was turpid, high colored, acid, showed no albumen or sugar, and the sediment consisted of uric acid and urates, a good deal of epithelium, most of which was in masses, and many red blood corpuscles. A diagnosis of intestinal toxæmia with right ureteritis was made, and the patient treated accordingly with saline colon flushing, calomel and salines and lithia by stomach, and hot applications over the seat of pain. The pain and temperature gradually subsided, but it was a week more before she felt entirely free from the trouble, and two weeks more before she was strong enough to leave her room.

Case II. Mrs. C., age 52. Seen with Dr. T. J. Henry, Nov. 19, 1902. Had been ill three days. Attack began with severe pain in right iliac fossa, and general but less pain throughout the abdomen, slight chilly feelings, and a rise of temperature of from one to two degrees with nausea and vomiting. The bowels had failed to respond to the administration of active cathartics, o that a volvulus or intususception was feared.

The patient was very stout, so that an exact physical examination could not be satisfactorily made, but as she could move herself without apparent increase of pain, the hard, "board-like feel" on the right side of abdomen was absent, and the abdomen, though tympanitic, was not tender to superficial pressure, disease of the appendix was excluded. While deep pressure at McBurney's point caused

pain, the same manifestation was observed on pressing deeply into the right loin, and for several inches below and inside of the McBurney point—in other words, along the course of the ureter.

Examination of the pelvic organs was negative. The urine, which was scanty, and slightly turbid, was examined and found to be of high specific gravity, acid, slight trace of albumen, no sugar. The deposit proved to consist of a few red blood corpuscles and pus cells, uric acid crystals and epithelium from kidney and bladder. The treatment consisted of the following:

Flushing of colon every six hours with normal salt solution through the long tube; salol and phenacetin, 5 grains, each every two hours if in pain; effervescing 5-grain lithia tablet in a glass of water every four hours; morphia hypodermically only when absolutely necessary to relieve pain, and hot applications. The following day the patient was very little, if any, better, and another physician saw her in consultation with Dr. Henry, and pronounced the disease appendicitis, and advised operation. Dr. Henry, however, had the courage of his convictions and continued treatment as before, with the result of a decided improvement on the fifth day, which continued graduallly until the tenth day, when all symptoms had disappeared and the patient was discharged.

Case III. Miss B., age 17. Seen with Dr. F. L. Newman, May 9, 1902, on the third day of a second attack of a similar nature. This case is unlike the others and not typical of its kind, as there was no rise of temperature and no apparent intestinal toxæmia, but it is reported because of its diagnostic importance, in that the pain and tenderness in the ureter so closely simulated the symptoms and signs of appendiceal irritation that careful differential tests were necessary to decide that the ureter and not the appendix was at fault.

The patient was a strong, well nourished young woman who worked in a factory. In the first attack, several weeks before, she was confined to the bed for a week, the pain and tenderness beginning suddenly. The pain in both attacks was attended by some nausea, but no vomiting, and at times was severe enough to demand anodynes. The patient located the pain and tenderness exactly at the McBurney point, but careful deep pressure tests showed that the tenderness passed from there downward, so that with the hypersensitive condition so often found in young girls, it was impossible to determine whether the extension of the painful area was along the course of the ureter or in the region of the uterus and right tube and ovary, without the more thorough examination allowed by the use of an anesthetic, so chloroform was administered and an examination of the pelvic organs made, which were found in a healthy condition. The location of the pain was then decided to be probably in the ureter, but a positive decision was not made till a specimen of the urine could be examined. This was obtained immediately, and found to show the usual indications of irritation of the urinary tract, being a small amount of sediment composed of urates, some oxalates, red blood cells and epithelium. Treatment directed to the bowels and kidneys soon relieved the patient, and she was up and about on the sixth day.

Case IV. Mrs. M., age 41. Seen with Dr. H. E. McLennon, of Bay Mills, Mich., on Feb. 27, 1903, in response to a telegram from the husband of the patient saying a consultation had been had, diagnosing appendicitis. As the symptoms detailed in the telegram were of high temperature (105°), rapid pulse, great abdom-

inal pain and vomiting, the writer feared that the case would be beyond operative help before he could reach it. Such, however, was not the case, as a great diminution of all symptoms had begun on the morning of his arrival, due no doubt to Dr. McLennon's success, after much persistence, in unloading the torpid bowels of a mass of decomposing material. The following are the notes taken at the time:

Feb. 27 (third day of illness), temperature 99°; pulse 90; colicky pains infrequent and not severe over abdomen; nausea continuous, but no vomiting.

Examination of abdomen: No tension; no "board-like feel;" tenderness in right side, along course of ureter and not more so at McBurney's point. No inflammatory mass to be felt.

Examination of urine: Specific gravity 1021, acid, slightly turpid, no albumen or sugar, much epithelium, some uric acid and a very few blood cells. The next day (28th) the urine was very free and full of sediment, which was mostly urates with some large crystals of uric acid, and no blood.

The treatment consisted of normal salt solution enemas, hot water and effervescing lithia tablets, by the mouth. The pain had all subsided by the end of the fourth day of the attack, but the patient had a slight rise of temperature for several days more, and did not get up until the twelfth day.

The notes in the cases cited in this paper have been purposely abridged as much as possible, it being the object of the writer to simply bring out those points in them which were of diagnostic value in illustrating the contention of his theme, and not to present a scientific record of cases. The writer is convinced that more patient observation and painstaking accuracy in diagnosing obscure appendiceal disease will save many lives by early recognition of the disease, and consequent early operation; and that on the other hand, many lives may be saved and much unnecessary suffering prevented by the same kind of care exercised in accuracy of diagnosis in the prevention of unnecessary operations on cases having simulated appendicitis, in which, owing to the apparent violence of the symptoms, snap diagnoses are liable to be made and the patients hurried to quick operation.

PROLAPSE OF UTERUS, VAGINA AND BLADDER.*

J. G. LYNDS,
Ann Arbor.

When these organs lie lower in the pelvis than normal, they are said to be prolapsed. The condition may exist in any degree from an almost imperceptible sagging to a complete protrusion outside the vulva or even hang down between the thighs the length of the inverted vagina.

The uterus in its normal position lies so its long axis corresponds closely to the axis of the inlet of the pelvis, the body resting lightly on the bladder, the cervix pointing downward and backward to a point a little above the anus and should be, in the majority of cases, two and one-half to three inches above the osteum vagina. This position varies considerably, however, in different cases according to the depth of the vagina and pelvis, as well as the condition of the bowl and bladder; the body ascending and being carried back when the bladder is distended or the whole organ crowded forward and downward

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when there is over accumulation of fecal matter in the bowl, and a laceration of the perineum shortens the vaginal canal so the cervix is more easily reached, although it occupies its normal position.

The size and weight of the uterus varies considerably, in virgins, nulliparous and multiparous women, a fair average being two and three-quarter inches in length, three-quarters of an inch in thickness, one and three-quarter inches in breadth at the orifices of the Fallopian tubes, three-quarters of an inch at the junction of the vagina, and its weight is one and one-half to two ounces.

It is held in position by folds of peritoneum, which form the broad, utero-sacral and utero-vesical ligaments, the round ligaments, and the vagina and pelvic floor. When it becomes prolapsed to any great extent it drags its appendages down with it, and causes obstruction in the circulation, which, in time, results in pathological changes in all these organs. This is especially true when the fundus becomes displaced posteriorly, which so frequently happens. These secondary conditions when of long standing become more serious and demand more radical treatment than the primary displacement.

I think it best to make three divisions of prolapse, viz:

1. Simple prolapse: When there is a simple descent of the organ in the pelvis.

2. Prolapse with change in the uterine axis: When the fundus is displaced posteriorly and generally the cervix anteriorly.

3. Procidentia; partial and complete.

Complete when straining or the erect position causes the entire uterus and greater part of the bladder to lie outside the vulva, the vagina being inverted.

Partial where a portion of the uterus is outside, with partial inversion of the vagina, the fundus lying correspondingly low.

I wish here to differentiate between a prolapsed and an hypertrophied organ in which we find an elongated cervix protruding from the vulva with or without partial inversion of the vagina, but where the fundus is found in practically its normal position.

The uterus is usually retroverted, retroflexed or a combination of each exists, but it is important to bear in mind that complete procidentia sometimes occurs when the normal or even an abnormal antiversion or antiflexion is present.

Etiology: On this part of the subject I will say little more than remind you of the three general causes, viz: decreased support, increased weight and increased abdominal pressure. Considering the supports, we have, below, the perineum and vagina with its lateral attachments to the pelvic walls, and above the utero-sacral, utero-vesical, broad and round ligaments. Personally I give these ligaments more credit for supporting the uterus and intra abdominal organs than they generally receive. It is a well known fact, and one I have no doubt many of you have observed, that when these ligaments become relaxed and weakened the uterus will sag down even in young women where the supports below are perfect; and in elderly nulliparous women I have seen both incomplete and complete procidentia a number of times.

On the other hand, I have seen the uterus and its appendages remain in perfect position for years when a complete laceration of the perineum and prolapse of the lower part of the vagina was present.

Understand me, I do not mean to belittle the sustaining power of the perineum and vagina, for I fully appreciate their

great importance and am thoroughly convinced that the great majority of the cases of procidentia are due primarily to a weakened condition of these parts and could be prevented if they were properly strengthened at the proper time.

The supports below, the ligaments, and the so-called retentive power of the abdomen above are all necessary in the majority of cases to properly support these organs; and the weakening of any one of them is likely to result in a downward displacement sooner or later, unless the uterus be correspondingly light and easy of retention.

It must not be forgotten that a large, heavy uterus may of itself overcome all ordinary supports and become prolapsed. Thus we observe a very fine and equalized adjustment between the strength of the supports and the parts to be supported, which, when disturbed, is likely to result in displacement.

A study of the different ways in which a prolapse begins will demonstrate what factor of support has been at fault. The sagging begins either at the vault or outlet of the vagina; when at the vault the uterus settles down and inversion of the vagina begins above. This may occur when the pelvic floor is intact, and is due to a weakened or relaxed condition of the ligaments, an unusually heavy uterus, or the retentive power of the abdomen is replaced by an expulsive power so great as to overcome the supports and force the organs down. When the sagging begins about the vaginal outlet it is due to a weakened condition of these parts. The vaginal wall sags down through the vulva together with the bladder and rectum, giving rise to cystocele and rectocele. The inversion of the vagina begins at the vulva, the upper portions of the vagina and uterus are dragged upon, the uterine ligaments are called upon to support this extra weight and generally are unable to do so, consequently all the organs are dragged down together. Montgomery calls the former utero-vaginal, the latter vagino-uterine prolapse. In the first the causes are in the pelvis, where the prolapse begins; in the latter at the vulva.

DIAGNOSIS.

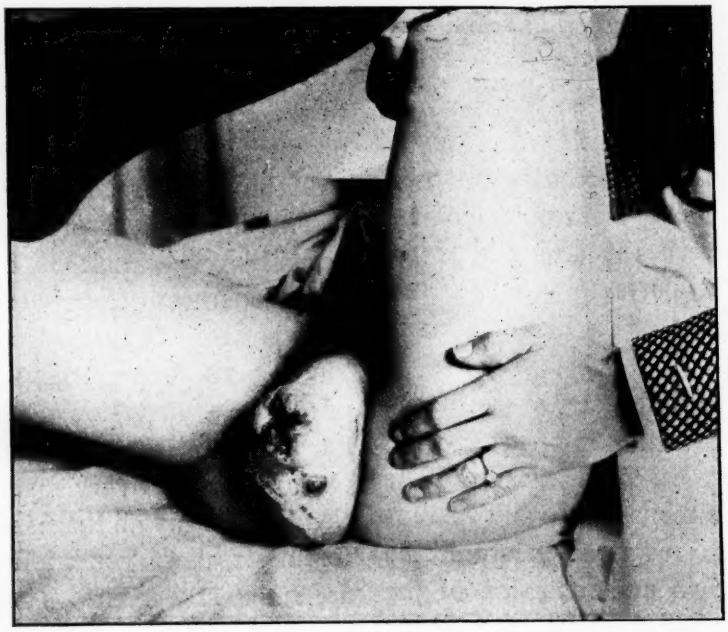
In simple prolapse the diagnosis is made by digital examination, the uterus being found nearer the vaginal outlet than normal, the cervix frequently resting on the perineum. In prolapse with change in the uterine axis the cervix generally lies close to the anterior vaginal wall and the osteum vagina, the body back against the bowl either in retroversion or retroflexion.

The diagnosis of procidentia, while apparently very simple, is frequently made when it is not present. It is necessary to differentiate from tumors of various kinds, enterocele, rectocele, cystocele, uretheocele, inversion of the uterus, and more than all else, elongated or hypertrophied cervix. A very superficial examination is generally all that is necessary to differentiate these conditions, yet mistakes are frequently made. The most common one probably is the mistaking an elongated cervix. When one sees a cervix protruding from the vulva it seems quite natural to call it prolapse or procidentia, where it is quite as likely to be an hypertrophy of this portion of the uterus.

I call your attention to this specially, as it has a very important bearing on treatment and prognosis. The cervix, as you will remember, is divided anatomically into three portions, viz: the vaginal, the intermediate, and the supra vaginal. You will remember the attachment of the anterior vaginal wall is at the top of the vaginal portion and of the post vaginal wall at the top of the intermediate portion. In

procidentia the entire uterus, appendages, vaginal vault, and bladder, descend together. In elongation of the cervix the body remains in practically its normal position. If the vaginal portion alone hypertrophies the vaginal vault is not disturbed, neither is the canal shortened. If the intermediate portion elongates, the anterior vaginal wall and usually the bladder is carried down with it and this portion of the vaginal canal correspondingly shortened. If the supra vaginal portion elongates, the entire vaginal vault is carried down exactly as in procidentia, but the uterine body, its attachments and appendages remain in their normal positions practically undisturbed.

Now note the difference. In complete and partial procidentia the support of the pelvic floor, be it little or great, is overcome; the lateral attachments of the vagina and bladder are destroyed to greater or less extent, according to the amount of inversion, and the uterine ligaments and pelvic peritineum stretched out so they lie outside the vulva. (The photograph will demonstrate to what extent this may occur.) This differential diagnosis is of the greatest importance in giving a prognosis and deciding upon treatment; as in hypertrophy the treatment is simple, safe, sure, and involves the loss of none of the organs, while in procidentia the prognosis is uncertain, and anything that promises a cure more difficult and dangerous.



Complete procidentia and inversion of vagina with ulceration of vagina and laceration of cervix. Hysterectomy, amputation of part of vagina with fixation to broad ligaments. Colporrhaphy and Perinæorrhaphy. Cure.

Tumors protruding from the vulva are sometimes mistaken for procidentia, but by locating the body and cervical canal there is no need of this error. In inversion of the uterus the fundus is likely to present at or outside the vulva, but is more likely to be mistaken for a tumor than procindentia. I once saw a well known operator amputate at the vaginal vault, thinking he was removing a fibroid, but an examination of the removed specimen showed it to be the inverted uterus

with the appendages inside. The absence of the cervical canal and of the body above the vault should lead to a correct diagnosis in this condition, however.

ENTEROCELE.

Prolapse of the omentum and intestines, one or both occasionally occur by carrying down Douglas' cul de sac until it protrudes from the vulva, or sometimes when retroversion exists, by crowding down the bladder, separating its attachment from the vagina and thus presenting externally. The sac may contain intestine omentum or ascitic fluid, but is easily differentiated from procidentia.

TREATMENT.

This is certainly one of the conditions where prevention is better than cure, especially the prevention of procidentia and, most of all, complete procidentia, in which a cure, in the sense of returning the parts to a normal condition, is practically impossible.

Prophylactic treatment consists in the careful examination of every patient after confinement and the proper repair of all injuries. This not only immediately after delivery, but again after the woman has been about on her feet for a time, lifting her baby, and doing such other work as would prove likely to affect a weakened condition of these parts. If at this time there is found a tendency to utero-vaginal prolapse, it is, as I have previously stated, due to a weakened condition of the ligaments and a properly fitted pessary will relieve them of their load and hold the uterus in position until they have time to regain their proper tone. This will require perhaps one month, perhaps six. The patient should be watched for some time after the removal of the instrument and if a tendency to prolapse or retroversion continues, it should be replaced and worn a longer time.

If a tendency to vaginal or vagino-uterine prolapse is found, it indicates a lack of support at the outlet, and surgical repair of the part is the only remedy and should be done before the upper part of the vagina and uterus are dragged down out of position. If these conditions were looked for and corrected when found, as they should be, soon after confinement, procidentia would soon become a rare condition.

TREATMENT OF SIMPLE PROLAPSE.

When the uterus sags low in the pelvis, resting as it often does on the pelvic floor, giving rise to backache, dragging, dysmemorrhoea, pressure on the perineum, etc., the indications are for some support to take the weight off the overstretched and sensitive ligaments as well as the perineum. A well fitted pessary will generally fulfil these indications but should it fail an abdominal suspension may prove necessary to give relief or effect a cure.

It may be laid down as a law that when the prolapse is utero-vaginal a pessary or some abdominal suspending operation is necessary to keep the organs up in position. (This is equally true in simple prolapse, prolapse with retroversion or prolapse with antiversion.) Parsons reports having treated this condition by injecting sulphate of quinine into the broad ligaments with satisfactory results in thirty-four out of forty cases so treated. When the prolapse is vagino-uterine in nature, a narrowing of the vagina and strengthening of the perineum is indicated. When both forms are present a combination of both measures is usually necessary to secure success.

TREATMENT OF ELONGATED CERVIX, PARTIAL AND COMPLETE PROCIDENTIA.

I called your attention to the conditions present in elongation of different portions

of the cervix for the purpose of showing you how it differed anatomically from prolapse and will now call your attention to the difference in prognosis and treatment.

When the vaginal portion of the cervix only is elongated the uterine body, vagina and bladder being in position, the treatment amounts to a simple amputation. I make an anterior and posterior flap near the vaginal vault, strip them back from as much of the cervix as seems advisable, cut off the cervix and stitch the flaps to the mucous membrane of the cervical canal in the center, and unite them at the sides. If the perineum is weakened it should be repaired as a prophylactic measure. When the intermediate portion is elongated, the anterior vaginal wall inverted, and the bladder prolapsed, the incision for the anterior flap must be made below the bladder attachment so as to avoid wounding that organ. This flap is disected from the cervix as far back as necessary; the posterior flap is made as before near the vault and the operation completed in like manner. This carries the anterior vaginal attachment up to where it originally belonged and replaces the bladder. Owing to the fact that the vaginal wall and bladder have been severed from their attachments to the pelvis to a greater or less extent, depending upon the amount of inversion, it is sometimes necessary to do an anterior as well as a posterior colporraphy and perinæorrhaphy in order to get sufficient support. When the elongation is supra-vaginal both flaps must be made low down in order to avoid wounding the bladder and peritoneum, then disected back to the lower portion of the body where the cervix is amputated, the flaps stitched to it as before, and anterior colporraphy, posterior colporraphy and perinæorrhaphy done if necessary. Frequently the peritoneal cavity is opened, in Douglas' cul de sac, during the operation, but it is of no consequence and does not interfere with its completion in any way. The prognosis in these cases is good. There should be no mortality and every case should be cured.

In incomplete procidentia the conditions present must decide what measures are to be taken for their relief. If the uterus be small and not too sensitive, the pelvic floor in a condition to sustain a pessary, some patients may be made very comfortable with this instrument. In cases where operation is contraindicated, as e. g., in feeble elderly persons, or those suffering from diseases which make operations inadvisable, a perineal pad and bandage or a well fitted pessary will give great relief. When the falling of the parts is due to a large vagina and weak pelvic floor, colporraphy and perinæorrhaphy is indicated, possibly with amputation of cervix, Alexander's operation, or abdominal suspension on some cases.

When a large, heavy retroverted uterus with lacerated cervix and prolapsed and diseased appendages are present and the patient be nearing the menopause, I believe the best treatment is to remove the diseased organs and complete the operation in the manner I shall hereafter describe.

In complete procidentia, with inversion of the vagina and prolapse of the bladder and rectum, any of these measures seldom prove satisfactory.

I have seen cases with the cervix and vaginal vault hanging outside the vulva within one year after all this had been done, the attachment of the uterus to the abdominal wall still remaining.

All kinds of procedures have been tried from hooping the vagina with silver wire to crowding the organs inside and closing

the vulvar opening and all have proven unsatisfactory.

When carried up into position and the pelvic floor restored or even the opening closed, they immediately drop down again and, resting on the newly restored tissue, either prevent good union or soon stretch it out so they again lie outside. I can not see that any benefit is to be derived from fastening the uterine body to the vagina, peritoneum, or bladder in front, when all alike are loose from their attachments and supports, and all drop down together. It would certainly result in nothing better than dragging the bladder that much more out of position if the retroversion returned, or crowding it that much further down in front if it remained anteverted.

Experience has proven that in many cases even anterior fixation does not prevent a speedy return of the prolapse. As I mentioned a moment ago, I have seen cases even where the prolapse was incomplete, and amputation of the cervix, curetting, anterior and posterior, colporraphy, perinæorrhaphy, and ventral fixation, had been done, and well done, return in a short time with the cervix again outside the vulva.

I believe there is a way, however, by which even the worst cases can be given permanent relief providing the patient be in a condition to undergo the necessary operation. It would probably not be advisable in all cases, however, as e. g., in aged and feeble people who have but a short time to live at the best, and palliative measures such as a perineal bandage and pad gives a fairly comfortable existence, although I have done the operation successfully a number of times in patients over seventy.

When considering the etiology we found the causes of the procidentia to be a weakened condition of the pelvic floor, a weakened condition of the ligaments, increased pressure from above and a heavy uterus. In procidentia it is common to have all these causes acting, and more. The uterus is not only large and heavy, but it has become a dilating wedge, and, strengthen the outlet as you will, unless this constantly acting dilator is kept off the part, the work will soon be undone and the uterus again be outside.

The intra-abdominal pressure is as a rule greatly increased in these cases, for they are generally fleshy, having thick, heavy abdominal walls containing large quantities of adipose tissue and large fatty deposits within the abdomen. Because of the fact that they are unable to exercise, this is likely to become greater as time goes on, and thus the pressure from above is increased. It is possible to do something for this in the way of diet, exercise such as the patient can take, and massage, especially of the abdomen, but the benefit is slight. It seems to me not only necessary to diminish the pressure from above, and the weight of the uterus, and increase the support at the pelvic outlet, but quite as necessary to get rid of this dilating wedge and at the same time obtain a support at or near the pelvic brim capable of supporting the abdominal contents and vaginal vault. How can this be done? It is easy enough to remove the wedge by hysterectomy. This I know is strongly objected to by some on the grounds that hysterectomy has proven a failure for the cure of this condition and once the uterus is removed the chances for benefit by anterior suspension are forever lost. These objections are valid. Hysterectomy alone has proven a failure; anterior suspension, however, has not proven more of a success. We can get rid of the wedge by hysterectomy, and can then use

the severed stumps of the broad ligaments, as the wherewith for the support near the pelvic brim, necessary to sustain the abdominal contents and hold up the vagina and bladder.

Right here I would like to say a word in justification of the removal of the uterus and appendages.

In practically all such cases as we are considering, the ovaries, uterus and tubes are in such a diseased condition as to be a decided detriment to the patient and, if in their proper positions, would in many cases require removal. It is not always conservative to attempt to save diseased parts, for in many cases it leaves the patient in a condition quite as bad as before and renders subsequent operations necessary.

After removal of the uterus and appendages in the ordinary way, per vaginum with catgut ligatures, I draw down the broad ligaments and pass another ligature as near the pelvic wall as convenient, usually two or three inches beyond the severed end, and again through the end of the ligament of the opposite side so that when drawn up they cause the ligaments to overlap two or three inches. The anterior and posterior flaps of peritoneum are then sutured together, beneath which the broad ligaments are drawn together overlapping as stated and firmly sutured. Thus we have a strong bridge across the pelvis, strong enough when well united to hold up the abdominal contents, vagina, bladder and rectum. To this bridge the anterior and posterior walls of the vagina are fastened, thus bringing the bladder and rectum up into position.

Whatever is necessary in the way of narrowing the vagina is then attended to, the pelvic floor restored and a light packing placed in the vagina. When put to bed the patient's hips should be kept elevated for a week or ten days in order to relieve the pressure on the parts until well united. Three weeks is little enough time to keep the patient in the prone position for if allowed to assume the erect position before union of the parts is strong they will not hold. With good union we have the indications fulfilled and there will be no further prolapse.

I have now operated in this manner on over twenty cases and there has not been a single relapse. The one shown in the photograph was among the first cases I did this operation upon. She had been an invalid, in bed most of the time, for two years. The uterus was outside, lacerated and badly ulcerated; the vagina completely inverted and deeply ulcerated, the bladder also lying outside the vulva. Now she is as well and strong as ever, never has any dragging or sagging of the parts, and can do as much work as she ever could.

It is an easy matter to diagnose an elongated cervix as procidentia, and by an amputation and operation on the vagina and perineum obtain a cure. In partial procidentia the same measure may give complete or partial relief, but my experience has been that the major part of the troubles, such as the backache, dragging, pressure, and pain, are only partially if at all relieved, and the patient complains of nearly as much trouble as previously; which, considering the condition existing, is certainly nothing more than we should expect.

When complete procidentia really exists, there are comparatively few cases that will be given complete relief, excepting by radical measures similar to those I have just described, especially in very fleshy persons. Extirpation of the vagina along with the uterus has been done, but

I have found the operation described adequate in even the worst cases.

I do not wish to leave the impression that I advocate hysterectomy in all cases of prolapse or even in all cases of procidentia, but I believe there is a class of cases which nothing short of such radical measures as I have mentioned will give relief. Each patient must be more or less a law unto herself, however, and it requires a thorough and careful study of the case to decide upon the best treatment. And there are probably but few conditions that require greater judgment in deciding upon the best measures of relief, in modifying details, or operations, than the one under consideration.

FLATULENCE, METEORISM AND TYMPANITES.*

CHARLES D. AARON,
Detroit.

Flatulence is the distention of the stomach or the intestine with air or gas. When the gas accumulates acutely in the intestine we call it meteorism. A chronic accumulation of gas in the intestinal canal we call tympanites. Normally the intestines always contain a certain amount of gas. A part of this gas is atmospheric air which has been swallowed with the saliva or taken with the food. In this way a great deal of oxygen and nitrogen is introduced into the stomach and intestine. Oxygen is quickly absorbed and is, therefore, never found in the lower intestine. In consequence of diffusion quite a little carbonic acid gas passes through the blood vessels of the intestinal wall into the lumen of the intestine. The other gases found in the intestine come from decomposition of food. From fermentation and putrefaction of food in the digestive tract we get hydrogen, ammonia, methane and sulphuretted hydrogen. There are, therefore, two causes for the presence of gas in the intestine: 1st. The taking of gas from without. 2nd. Where it is formed through decomposition of food within the intestinal canal.

It is quite natural that gases should develop from the food when one considers the course it takes through the intestine. In general we may say that as soon as the material in the intestinal canal slackens, the production of gas is augmented. As the contents progress more slowly in the large intestine it is here that the gases accumulate most. If these gases escape at the time of defecation they give no more trouble. If they are retained, this accumulation becomes the cause of various painful symptoms of which abdominal meteorism is the most evident.

The slowing of the material through the intestinal canal is frequently found in patients who lead a sedentary life. The matter accumulates, hardens and cannot escape when the effort is made. This hardened mass alters the intestinal walls by irritating the epithelium and assists in the production of a chronic enteritis. We usually find the formation of a great deal of gas in localized and diffused peritonitis. When the folds of the peritoneum become inflamed and thickened they cause adhesions which interfere with the course of the intestinal contents. Whatever may be the cause of retarded peristalsis, gas is always formed. Abnormal formation of gas in the intestine always implies the presence of large quantities of decomposing substances. The development of gases is increased when a pathological condition of the digestive tract exists.

*Read before the Section on General Medicine at the Annual Meeting of the Michigan State Medical Society at Detroit, June 12, 1903, and approved for publication by the Committee on Publication of the Society.

In certain diseases of the stomach the gastric juice is so weakened that the proteolytic power is greatly reduced. This allows the bacteria to attack the imperfectly digested food and we get fermentation and putrefaction. The secretions of the intestine are unable to inhibit this decomposition, so that the formation of gas which has started in the stomach, continues in the intestine. Normally one-third of the solid matter of feces is bacteria. These merely await the slowing of peristalsis or constipation to form the gases that give so much trouble. Anything that will interfere with the secretion of the gastric juice allows the food to decompose, and this fermentative mass may irritate the mucous membrane and produce a diseased condition which further complicates the whole situation. When there is interference with the elimination of gases through the natural channel, they always accumulate and distend the intestine. In general all conditions which lower or retard peristalsis assist in the formation of gases. When there is a small quantity of gas in the intestine, it may be absorbed and taken into the blood and thus eliminated. When there is stagnation in the intestinal canal the production of gases is greatly increased and the intestine stretches to meet this condition.

Fermentation in the digestive tract is the chemical decomposition of food which is induced by bacteria. To live it is necessary for these bacteria to acquire nourishment. They attain this by attacking the food and thus liberate gas. Fermentation and the liberation of these gases cease when the nutriment is exhausted. Sulphuretted hydrogen and marsh gas are very common bacterial products.

Pasteur observed the presence of bacteria in the intestinal canal and proved that they were the cause of the formation of gases and he held that they were esential for the maintenance of life. We have come to see that this is an extreme view. We know that micro-organisms have their habitat in the healthy body as well as in the diseased body and that the production of gas is absolutely dependent upon their presence. The function of hydrochloric acid in the stomach is to assist digestion and destroy germs. It has been shown that hydrochloric acid does not entirely destroy all the germs that have reached the stomach. The stomach is not a perfect sterilizer. Under normal conditions free hydrochloric acid arrests fermentation up to a certain degree. Fungi can exist in the stomach in the presence of hydrochloric acid. Since the normal stomach contains fungi, notwithstanding the presence of hydrochloric acid, we would naturally find a great many more germs in chronic gastritis where the secretion of hydrochloric acid is decreased. In all degrees of catarrh of the stomach the food that has been taken into the stomach has not the natural antiseptic, free hydrochloric acid, and germs find a medium for propagation. In consequence of abnormal fermentation the formation of gas is great. In infants, the gastric glands are not fully developed, and thus fermentation not being arrested, fungi thrive. A similar condition exists in adults in all degrees of catarrh of the stomach. Fungi enter the stomach, multiply freely and establish nidi for propagation. Thus the stomach may become the direct cause of the gas which has allowed the micro-organisms to pass on into the intestine unchallenged and here their multiplication is rapid.

The accumulation of gases is a symptom of various diseases. It is found in constipation, intussusception, invagination, valvulus, hernia, strangulation, lo-

calized and diffused peritonitis. It is easy to understand how gas occurs in a stenosis of the intestine. But it is the purpose of this paper to draw your attention to cases where we have a continuous accumulation of gas due to an abnormity in the secretion of the gastric juice.

Let us study the symptoms of flatulence. On inspection we find the abdomen distended and at times so much so that all deep palpation is impossible. With percussion we obtain in all these cases an exaggerated resonance, at times a real tympanism. This rarely lies over the small intestine but is found almost always over the large intestine. Sometimes we find the tympanic resonance distinctly over the entire course of the large intestine, again it is localized in one of the iliac fossæ, proving that at times the cæcum, the ascending colon or the descending colon, is more affected than the transverse colon. The intestine may distend to three times its normal size.

Much more interesting are the symptoms of compression of the neighboring organs. The accumulation of gas may be such that the abdominal wall, already more or less distended, refuses to distend any more. In youth this degree is quickly attained and the abdomen remains more or less flat. The large intestine, greatly increased in size, compresses the surrounding organs. The diaphragm is obliged to stretch its concavity, as it is pushed up by the liver. At the back the solar plexus, the arteries, veins and the kidneys are compressed and thus produce a great deal of trouble.

The thoracic organs suffer through abdominal distention. The lungs may be extremely compressed from top to bottom. This compression may be such that the height of the lungs is diminished by one fifth. Therefore, the lungs cannot expand during inspiration and oxygen cannot enter into many of the alveoli. The result is that the patient suffers constantly from dyspnœa. This dyspnœa may not be severe but it is disagreeable and increases considerably after meals. The seat of the trouble is in the intestine where the gas is accumulating and all medication directed toward the lungs will not relieve the patient in the least. The dyspnœa may manifest itself at times in the form of crises of asthma. But the origin of the asthmatic crises is to be found in the compression of the solar plexus, arteries and veins.

The heart does not functionate normally as it is being pressed upon from all sides. The pulse is slow and easily compressed. Patients themselves, upon ascertaining these symptoms, become uneasy and imagine they have a disease of the heart and consult a specialist for this trouble. At times the heart may beat violently and this may become extremely painful. Patients complain that they cannot sleep in a horizontal position. It is almost always between four and five o'clock in the morning that they complain the most and this coincides with the arrival of the material in the transverse colon. All these symptoms ameliorate when we prevent the formation of gases in the intestine.

Many patients suffer from headache which often becomes unbearable. Sometimes it is localized in the frontal region and again at the level of one of the hemispheres. At times there are periods of depression which coincide with a stubborn constipation and an accumulation of intestinal gas. Patients often complain of pain in the eyes and have luminous sensations. At other moments they have a buzzing in the ears. The circulation is

poor and the patients have cold hands and feet. Nothing warms them up, during the night they are obliged to sleep with hot water bags. The distention of the sigmoid flexure and of the rectum, compresses the pelvic organs. In extreme compression the bladder may be pushed from the back to the front and its capacity is very much diminished, which necessitates frequent urination.

There is an important complication which may result directly from this intra-intestinal tension and that is appendicitis. The materials in the cæcum, in cases of flatulence, tend to become pushed back toward the appendix. Under this continued pressure the orifice of the appendix enlarges. A little of this material may be forced directly into the appendix, and then the lumen closes. The microbes already numerous in the intestine, become rapidly virulent and thus produce appendicitis. The proof is, that many cases of appendicitis are preceded by a more or less abnormal fermentation generating the intestinal gas.

In the treatment of flatulence the cause must always be taken into consideration. All diseases of which flatulence is a symptom, as already mentioned, must receive special consideration and treatment. The stomach contents should always be examined before determining the proper course of treatment, as many cases have their origin in the stomach. If gastric catarrh is the cause, the treatment of the catarrh will remedy the whole trouble. A hyperchlorhydria may have to be corrected.

Bacteria which have been taken into the stomach, multiply rapidly in the duodenum and continue to do so until they are unusually prolific in the large intestine. Fermentation takes place in the stomach and upper intestine. Putrefaction always takes place in the large intestine. It is estimated that an unclean mouth can contain over one billion bacteria. These are taken into the stomach with the food and here find a medium for rapid propagation. We can thus readily understand why the teeth and mouth should have special care.

The dietetic treatment of flatulency is of primary importance. Foods contain principally four of the eighty-two elements, carbon, hydrogen, oxygen and nitrogen. Carbon, hydrogen and oxygen are found in the carbohydrates and fats, while nitrogen is mostly found in the proteids. All these foods are subject to decomposition by bacteria, which causes the liberation of gases in the alimentary canal. The fermentation of the carbohydrates occurs in the stomach or the upper part of the small intestine. The proteids undergo putrefaction in the lower bowel. The gases produced are carbonic acid gas, hydrogen, sulphuretted hydrogen and methylmercaptan. The extent of the putrefactive process in the intestine can be measured by the amount of indican in the urine. We cannot measure the amount of carbohydrate fermentation. If we have fermentation we can starve out the bacteria causing this fermentation, by giving foods upon which they cannot subsist. If we have putrefaction we can starve out the bacteria and this can be done by forbidding proteids. All food which causes flatulence must be avoided. Most of the substances that incite fermentation are beer, champagne, kumyss, starches, sugar, vegetables rich in cellulose, cabbage, potatoes, beets, peas, beans, rye bread, fresh bread, cakes and fatty foods. Artificial and natural mineral waters containing carbonic acid gas are to be forbidden. With many people a milk diet will produce flatulence.

There is as yet no medication that will prevent the formation of gas in the intestine. All drugs to prevent decomposition of the intestinal contents have thus far failed. The absorption of gases by medicine is an illusion. In constipation we must see that there are regular evacuations of the bowels. The most important thing is to expel the gas through the anus. Exciting peristalsis assists in the elimination of gas and this may be done by cathartics. The kind of cathartic must depend upon each special case. The drugs usually used to aid the expulsion of gas are the carminitives, which stimulate gastric and intestinal movements. It is absolutely necessary to get normal evacuations of the bowels. For this purpose I have found nothing better than chemically pure Oleum Petrolatum. This mineral oil is not acted upon by the gastric or the pancreatic juices and passes through the whole alimentary canal unchanged. It lubricates the gastrointestinal mucous membrane and acts as an emollient. The feces glide along giving normal movements without irritating the intestine. Scybalæ do not form, and the gas passes off with the oil, which is seen in every evacuation. Oleum Petrolatum is colorless, odorless and tasteless and can be given in tablespoonful doses four times daily. The amount will have to be regulated by the number of evacuations.

The mechanical clearing of the intestine is of the greatest importance when not contraindicated by inflammation and ulceration. The best means for removing the gases is the free use of water per rectum. A long rubber stomach tube may be carried high up into the bowel and acts in a favorable manner. The introduction of the tube into the rectum will bring away a great deal of gas. The tube stimulates peristalsis and the elimination of gas is rapid. Enemas, especialy turpentine enemas, are frequently very effectual. Cold water is often more apt to stimulate peristalsis than warm water. When not contraindicated massage of the abdomen may be permitted. Massage and electricity will influence peristalsis and hasten the passing of gas. The faradic current may be used but it is not as good as massage. The use of a cannon ball, from two to five pounds, on the abdomen has been found very valuable in these cases. It should be rolled over the large intestine for five minutes every night and continued for some time.

HYPEREMESIS GRAVIDARUM.*

L. BREISACHER,
Detroit.

Although gastric disturbances are very common during the period of pregnancy and usually occasion much discomfort and suffering, they have always been looked upon as a necessary accompaniment of that condition, and, in consequence, have not received the attention they deserve.

One of the first symptoms of pregnancy, in a large number of cases, is nausea and vomiting. Between the ordinary morning sickness, or vomiting of pregnancy, and hyperemesis gravidarum, there are various degrees and types of vomiting which may be induced by one or more of many different reflex and pathologic conditions.

The simple vomiting of pregnancy is often, but I believe wrongly and illogically, looked upon as being a physiological condition. It is caused by irritability of

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the sympathetic nerve supply of the uterus which is reflected to the hypogastric plexus, causing nausea and vomiting. We have many instances in medicine which prove that nausea and vomiting may occur without the existence of any evident pathologic connection between the stomach and the source of irritation. Thus, reflex irritation of the stomach resulting in vomiting is seen in diseases of the spleen, liver, bile passages, intestines and peritoneum; it may result from various dislocations and diseases of the kidneys and other abdominal organs; it is often an accompaniment of hysteria and cerebral and spinal disease; we may find it resulting from constipation, carcinoma, pulmonary and intestinal tuberculosis, and lastly from inflammatory adhesions existing between the gastro-intestinal organs and the uterus and its appendages.

To this group of causes of reflex vomiting may be added the fact of the occurrence of gastric disturbances in the period of puberty and during menstruation. These instances, then, will serve to prove the fact which I wish to emphasize, that various irritations arising in different parts of the organism may occasion reflex vomiting. It is undoubtedly due to the ignoring of the above facts that so much confusion and misunderstanding exist in reference to this subject. It is clear that we must make a distinction between the true vomiting neurosis of pregnancy apparently occurring independent of any macroscopic pathologic change and that form of vomiting induced by conditions other than the state of pregnancy. The one type may be termed vomiting of pregnancy, and the other vomiting in pregnancy.

Simple vomiting of pregnancy may occur only as an accompaniment of the first pregnancy, or, as it often happens, it may accompany not only the first but every subsequent conception. Simple vomiting of pregnancy, or morning sickness, usually develops during the first three or four months of pregnancy and ordinarily yields to simple treatment, if it be timely and rationally applied. In some cases there exists simply a slight nausea upon arising, which may disappear after eating and not return during the entire day; in other cases, nausea develops in the morning before arising and may be controlled by taking breakfast in bed, by resorting to some simple medicinal means, or by the wearing of an abdominal band. In other cases, there is a continuous feeling of heaviness and distress in the stomach, with attacks of vomiting during the day in which the entire amount, or only a fractional part of the ingested food may be expelled from the stomach.

If left alone or only indifferently treated, these cases often recover spontaneously at the end of the fifth month; whereas if they continue beyond this period the vomiting may persist during the entire pregnancy. These cases of vomiting in which there is no decided disturbance of the general health and nutrition are termed simple vomiting of pregnancy. In other cases, however, from the very beginning of the attack, or as the result of a continuance of the symptoms aforementioned, the vomiting grows in severity, so that at last the patient is unable to retain either solid or liquid food of any kind, and retching, straining and vomiting continue uninterruptedly although the stomach be perfectly empty.

The appetite may be entirely abolished or, where it exists, the patient may refuse all food for fear of aggravating her condition. The general nutrition fails, and

there is a steady loss of weight. The bowels may be constipated or move only sparingly, the fæces consisting simply of the gastro-intestinal secretions as is typical in cases of inanition. The vomit may, at this stage, be of a heavy mucous nature, streaked with blood and admixed with biliary and intestinal secretions. The urine may contain blood and albumen, conditions typical of pronounced inanition. Fever often develops at this stage and eventually various nervous symptoms supervene, such as muscular spasms, delirium and coma; when they do, the case has assumed a very grave aspect and is usually followed by death.

That death from hyperemesis gravidarum does frequently occur in the practice of some physicians is shown by various statistics. Thus, in one series of 239 cases there were 95 deaths recorded; in another series of 57 there were 28 deaths; and in still another series of 118 cases there were 46 deaths recorded. Fortunately, however, the progress made in recent years on the subjects of dietetics and diseases of the stomach enable us to achieve much more satisfactory results than those detailed in the aforementioned statistics.

In attempting to clear up the cause of simple and grave vomiting of pregnancy our task is beset with many difficulties, for the reason that so many different agents may act together in the production of the trouble, and further that it cannot be positively demonstrated that the so-called neuroses, of which true hyperemesis is a type, are really elementary conditions. In the first place, the fundamental cause of the vomiting may be a gastro-intestinal disease, either acute or chronic, such as catarrh, hyperacidity, ulcer, carcinoma, etc.

Secondly, genito-urinary diseases such as metritis, ovaritis, etc., may lie at the bottom of the difficulty.

Thirdly, it may be induced by disease or irritation of any of the organs which may produce, as we have seen in the beginning of this paper, reflex vomiting.

In the fourth place, aside from any of the above causes, we have a number of cases in which there is no recognizable source of irritation other than the normal gravid womb, and these cases may be looked upon as genuine neuroses and types of true hyperemesis gravidarum.

It is, of course, evident that mixed forms of this difficulty may occur in which different causes may operate at the same time.

Numerous writers, such as Kaltenbach, Ahlfeld and others look upon this difficulty as simply an expression of hysteria. Other writers, such as Eulenberg and Dirmoser suspect that auto-intoxication is the primary cause of the trouble.

The idea of hysteria being the fundamental cause may be dismissed, and the hypothesis of auto-intoxication has as yet received no substantial corroboration, although it was propounded a number of years ago.

Most of my patients who have suffered from this difficulty have been of a highly nervous but hardly of a hysterical temperament. The auto-intoxication, which may be physically and clinically demonstrated, no doubt, is not unlike the intoxication often seen in cases of starvation. In fine, we are justified in assuming that true hyperemesis gravidarum is a neurosis without any apparent gross pathological condition, and that the other types of hyperemesis, which may be equally as severe in their course, are caused by various pathological conditions acting pri-

marily or secondarily in the production of the vomiting.

This brings us, then, to the subject of the treatment of these difficulties. If there was any doubt as to the validity of the statement that there exists a great deal of misunderstanding in reference to hyperemesis it would be dispelled by a perusal of the various therapeutic measures suggested in this disease. Almost every therapeutic agent has been recommended for the cure of vomiting of pregnancy and hyperemesis gravidarum. And, while many of the agents may prove beneficial, they have been, in the majority of instances, illogically and unsystematically prescribed.

For instance, no less an authority than Liebreich recommends, off-hand, citric acid, ice, bitter almond water, morphine, tincture opium and cerium oxalate, without in any exact manner taking into consideration the condition of the stomach or the true source of the cause of the difficulty. In addition to these substances, we find recommended by various writers, in the same inconsequential manner bromides, menthol, cocain, ext. hydrastis canadensis, tannate of orexin, tinct. nux vomica, tincture iodine, chloral hydrate, bismuth and further lavage, gavage, nutrient enemata, intra-gastric electricity and suggestion, tampons, cervical dilatation and finally artificially induced abortion.

It may be said that there is no particular cure for hyperemesis which can be applied in each case alike. It is my practice to elicit as complete a history as possible in regard to any uterine or digestive disturbance. It is advisable to make a thorough examination of the organs suspected of being in an abnormal condition. Always examine the stomach contents and the urine; the treatment will hinge mainly upon the result of the stomach analysis, both physical and chemical. If there is atony of the stomach walls I use strychnine or nux vomica.

For hyperacidity, I use astringents, neutralizants or medicated lavage.

For hypersecretion, without atony, I use atropine, belladonna or lavage.

For catarrhal conditions I use acids and stomachics.

Where there is a great deal of nervousness I resort to bromides per rectum.

For badly relaxed abdominal walls or ptosis of any of the abdominal organs I use some form of abdominal support.

For constipation I use injections. I almost invariably resort to a neptune bandage, sometimes hot, but usually cold.

I use orexin when the acidity is not too high, and when the stomach is not excessively irritated. Bismuth and oxalate of cerium I use as local sedatives.

I never use opium or any of its derivatives; they are particularly contra-indicated when the gastric acidity is very high and the gastric secretion very profuse; they also have a detrimental effect upon the bowels and the nervous system. I have seen three cases in which grave and threatening results were produced by the careless overadministration of opium and morphine.

The question has arisen on several occasions whether any particular medicinal measure can act injuriously upon the pregnant woman's embryo; no drugs excepting ecbolics are contra-indicated in pregnancy when they are intelligently administered within the limit of their physiological and therapeutic action.

Every conceivable combination of drugs, and also various physical means, such as lavage, gavage, electricity and

the abdominal band and compress have been used the world over without the production of any objectionable results.

There yet remains for consideration the dietetic control of this difficulty. I usually resort to the bland liquids, such as milk and lime water, egg albumen strained or some specially prepared milk powder of which there are many on the market, which I administer in small quantities every five to 15 minutes, keeping the patient in the recumbent position with the head as low as possible. Nutrient enemata may be used and sometimes give good service, but I have never felt obliged to resort to them in this disease. I never resort to artificially digested foods.*

After three or four days I allow the patient semi-solid food, always selecting the food in reference to the chemical condition of the secretions and the motility of the stomach, and as much as is permissible in reference to the taste, appetite and peculiarities of the patient. I have never resorted to artificially induced abortion, and have always achieved satisfactory results by following out this line of treatment.

SOME ESSENTIAL POINTS IN THE USE OF THE KELLY FEMALE CYSTOSCOPE.

BENJAMIN R. SCHENCK,
Detroit.

Although the method of examining the female bladder by means of the open cystoscope, introduced into the air distended bladder, has been before the profession for nearly a decade, and has been extensively used, with the greatest satisfaction, in a few hospitals and clinics, it has not been very generally adopted by the profession, and its advantages are, consequently, too little known. This failure to employ the simplest of all forms of cystoscopy has been due, I believe, to discouragements brought about by the unsatisfactory results of the first few trials, and the lack of perseverance in using the instruments.

For the introduction of this simple procedure, we are indebted to the genius of Howard Kelly, who in 1894 first described the instruments and the method of their use. A number of modifications have since appeared, but despite the careful descriptions and the clear illustrations, one constantly sees attempts being made, not only without proper attention to the details of position, etc., but also even with improper, and at times absolutely impossible, instruments. Failure ensues, and the result is discouragement and dissatisfaction with the method. As an example of this disregard of the fundamental points, the writer, on being asked to explain why the method was not a success in one of the large clinics in Germany, witnessed a demonstration and found that the cystoscope in use was so short that only the internal urethral orifice could be seen. Moreover, the patient was in the knee-elbow position and not in the knee-chest, as is necessary, yet the surgeon complained that he could not make the bladder dilate.

During several years of teaching and demonstrating this method, the writer has repeatedly noted that beginners fail because they do not appreciate the importance of a few simple, but fundamental and extremely important points in the technique. An attempt is here made to emphasize these points. The instruments necessary are (1) urethral dilator, (2) cystoscopes, (3) urethral searcher, (4)

*Artificially Digested Foods, L. Breisacher, Jr., A. M. A., '02.

"alligator" forceps, (5) evacuator, (6) electric light, or Welsbach gas burner, and (7) head mirror.

These are too well known to require a detailed description, but attention should be given to the folowing important points: Three cystoscopes are sufficient. They should be Nos. 8, 9½ and 10½, which numbers represent the diameters of the tubes in millimeters. The instrument which is usually found in the shops is wrongly constructed in two very essential points. (1) The barrel is often too short, so that, while the instrument may serve very well as an endoscope for the urethra, it is practically useless for the examination of the bladder. *The tube should be 11 cm. long.* (2) The handle is usually fashioned after Kelly's early model and is much too small. It should be large enough to be firmly grasped by the whole fist, for in viewing certain parts of the bladder, some distortion of the urethra is necessary. While this does not require much force, if only the thumb and index finger be used, as the small handles require, they soon become stiff and the instrument cannot be held steadily. *The handle should be at least 12 cm. long and thick enough to be firmly grasped with the whole hand.*

The "alligator" forceps, such as are used in throat work, *should be 16 cm. long* and as delicately constructed as possible, so that the instrument, when inserted into the tube of the cystoscope will not obstruct the view.

The most convenient evacuator is that recently introduced, in which the urine is collected in a bottle, rather than in the bulb of the aspirator. Only the metal tube, which is inserted into the bladder, through the cystoscope, needs to be boiled, the rubber parts therefore lasting much longer than in the older form.

After some practice the ordinary electric lamp answers well, but for the beginner one of ground glass is preferable, as the image of the wire is at first confusing. With practice, however, one soon learns to use its bright reflection to illuminate the field, thus obtaining a brighter light than with the ground glass lamp.

Another important detail, often overlooked, is the curvature of the head mirror. It is most important that the focal length be correct, and experience has shown that *a mirror with one of 11½ inches,* is best fitted for the normal eye.

In addition, there should be at hand, a bag of little absorbent cotton pledgets, 1 cm. in diameter, solutions of 10 and 20 per cent. cocaine, one or two medicine droppers and a small amount of boro-glyceride. All these must be sterilized.

If now the following points in the use of these instruments be faithfully observed, they can be satisfactorily employed by any one, and with little practice, all parts of the bladder may be systematically examined.

With the patient on her back, the vulva and external urethral orifice should be thoroughly cleaned with soap and water, followed by boric solution. Pledgets of absorbent cotton are best used for this. *As much 20 per cent. cocaine, as is contained in a medicine dropper* is next injected into the urethra.

After waiting from 5 to 7 minutes, the patient then assumes the knee-chest position. *The correct application of this position contributes more to success than any other one factor.* The knees, separated about 8 inches, should be at the edge of the table, the chest (not the elbows)

should rest on a flat pillow, and a line, extending from the trochanter to the knee, should be perpendicular. If these three points be noted, the back will be bowed, and the intestines falling out of the pelvis, the vagina and bladder, on being opened, will dilate through atmospheric pressure.

The next most important point is to dilate the vagina, *before the urethra is opened.* To do this, the labia is simply separated, or a small speculum is momentarily inserted. If this be not done, when the cystoscope is introduced, the base of the bladder balloons upward and with the urethral orifices, becomes invisible.

The urethral dilator, well lubricated by dipping into the boro-glyceride, is then introduced and the urethra gently dilated to 9½ to 10 cm. Often in multiparæ no dilatation is necessary.

The selected cystoscope is then substituted for the dilator, and as the obturator is withdrawn, air will rush in and distend the bladder. The residual urine is aspirated by the evacuator and the *tube of the cystoscope wiped out* with the little pledgets, held in the alligator forceps. This last point is important, but often neglected.

The only remaining difficulty is the management of the reflected light, but this is soon overcome and the systematic examination of the whole bladder becomes easy. One may become skillful in the use of the light by examining the inside of a paste-board box, through a cystoscope inserted in a hole cut in the side.

Anatomical relations are sometimes confusing to a beginner on account of the inversion of the patient. Attention is called to the excellent illustrations accompanying an article by Hunner and Lyon, in the *Journal of the American Medical Association.*

JUNGLE DENTISTRY.

Oh! this pain," said Mrs. Hippo,
"Drives me mad.
I'ts the very worst toothache
I ever had;
To the monkey doctor I will
Go this day—
And see what science he
Can bring to play."

So she went and rang the little
Doctor's bell—
And she said, "Oh! Mister Monkey,
Can you tell
What on earth is making all this
Awful pain?
If I stand it longer I will
Be insane."

So she sank into the monkey
Dentist's chair;
"Mind," she said, "if you hurt me I
Do declare
I will bite your head off quickly,
And you'll see
That I won't stand monkey business
Here with me."

Tremblingly the monkey took a
Little peep,
Then with gas he put the Hippo
Fast asleep.
Propped her awful mouth wide open
With a stick,
And then said unto himself
"I must be quick."

"This big tooth must come out quickly,
And I might
Blow out the thing with patent
Maximite."
So he placed a cartridge near the
Awful root,
Then ran out the door to listen
To it shoot.

Oh! what awful noises rent
The summer air—
Parts of Mrs. Hippo flew most
Everywhere;
Then like other doctors, he was
Satisfied—
For he said it was successful,
But she died.

—Henry Lippincott.

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Editorial

ELECTION OF DELEGATE AND ALTERNATE.

The attention of the secretaries of the county medical societies is called to the following by-laws of the Michigan State Medical Society:

Chapter XIII, Sec. 11—At the first meeting after *January 1st,* due notice having been given, each County Society shall elect annually a delegate, or delegates, to represent it in the House of Delegates of this society in the proportion of one delegate to each *fifty* members or major fraction thereof. (See By-Laws, Chapter IV, Sec. 1.) The secretary of the County Society shall immediately send the list of the delegates to the secretary of this society.

Chapter IV, Sec. 1, By-Laws, reads: Each component County Society shall be entitled to send to the House of Delegates each year one delegate for every *fifty* members, and one for each major fraction thereof; but each County Society holding a charter from this society, which has made its annual report as provided in this Constitution and By-Laws, shall be entitled to one delegate.

At the last annual session of the state society the House of Delegates by resolution provided that an *alternate delegate* shall be elected with each delegate.

It is hardly necessary to remind the county societies that the business of the state society is transacted entirely by this House of Delegates and that each society is earnestly requested to elect as delegates members who will not only give thought to the needs of the society but who will attend the next meeting of the House of Delegates at Grand Rapids, May 25-27, 1904. There is nothing in the by-laws to prohibit the election as delegate of an officer of a county society, nor the returning to the House of Delegates of members who have manifsted an interest and a willingness to aid in the welfare of the state and county societies.

DRUMMING AT HOT SPRINGS, ARKANSAS.

Drumming patients for doctors is reported at many health resorts, but nowhere has it reached so luxuriant a growth as at Hot Springs, Ark. Various plans to abolish the practice have failed. Finally the general government entered the field. The basis for this action rests on the fact that the government owns all the hot springs and so can discriminate as to whom it may sell its hot water. Sept. 18th it requested all the physicians to submit their credentials to practice. Thirty-seven of these were forbidden to use the hot water or to practice in an hotel or bath house receiving the water.

The following extracts from the new regulations give an idea of the government's methods (*The Hot Springs Med. Jour.*):

"Rule 9—No bath house supplied with water from the Hot Springs Reservation shall permit any person to bathe therein who is under medical treatment, unless the applicant for baths presents satisfactory evidence that he or she is the patient of a physician duly registered at the office of the Superintendent of the Hot Springs Reservation as one qualified to prescribe the waters from the Hot Springs, and who is known not to be engaged in drumming for custom."

"Rule 10—Physicians, desiring to prescribe the hot waters of the Hot Springs, either internally or by baths, must first be registered at the office of the Superintendent of the Reservation. Registration will only be accorded

such physicians as are found, by the Board of Physicians designated by the Secretary of the Interior, to have proper qualifications and character, and who do not engage in drumming for custom. The solicitation of patronage, through the medium of drummers, by registered physicians is prohibited; failure to observe this requirement will be sufficient cause for cancellation or revocation of registration."

To stop "drumming" at Hot Springs, Ark., the government has listed the physicians it deems qualified to practice medicine in the hotels, etc., where it sells its hot water. These are forbidden to "drum" or to patronize those who do drum for business, under penalty of being cut from the privileged list. It has ordered that no hot water be sold to hotels or bath houses which admit the patient of any doctor not on its list. In this way—on paper—it has hit "drumming" at both ends. It now remains to be seen whether its agents will enforce these rules. If they do, "drumming" will be extinguished at Hot Springs, Ark., a condition as heartily desired by the profession of Hot Springs as by the medical profession in general.

On October 24, 1903, Chancellor Leatherman, in a test suit, held the Gantt Anti-Drumming Law to be constitutional, a most important decision in the interest of the high class medical legislation for which Arkansas is striving.

County Society News.

CALHOUN COUNTY.

The twenty-sixth annual meeting and seventh annual banquet of the Calhoun County Medical Society, Branch No. 1, M. S. M. S., (being the second since the re-organization) was held in Battle Creek, December 1, 1903.

2:00 P. M.—PAPERS.

F. W. Robbins, Detroit—"Hemorrhage from the Bladder."

J. H. Reed, Battle Creek—"A contribution to the Chemistry of Diabetes Mellitus, with special reference to Coma and its Treatment."

Angus McLean, Detroit—"Congenital Dislocation of Hip."

L. S. Joy, Marshall, President's Address—"Catholicity in the Practice of Medicine."

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The banquet was held at the Battle Creek Sanitarium at 7 p. m.

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Secretary's report, December 1, 1903.

Since the last report, three meetings have been held. The first or annual meeting for 1902 was held at Marshall, December 9, 1902. At that meeting there were thirty-two members present. This was the first meeting after the re-organization.

OFFICERS ELECTED.

President—Louis S. Joy.
Vice-President—James H. Reed.
Sec.-Treas.—W. H. Haughey.
Delegate—A. W. Alvord.

The Board of Directors—J. L. Ramsdell for five years, Eugene Miller for four years, E. J. Pendell for three years, A. J. Abbott for two years, and C. G. Vary for one year. Dr. Vary's term of office has expired and his successor is to be elected at this meeting.

There were eight applications for membership, seven of which were accompanied with the fee and were favorably reported by the Board of Directors and elected to membership. The other, not being accompanied with the fee, was held over.

At this meeting, Dr. S. S. French was elected to honorary membership in our County Society.

After the meeting an elegant and sumptuous banquet was given to the members and their ladies, by the ladies of Marshall. A fine program of toasts was arranged and well delivered, a pleasant and profitable evening was spent, and at a late hour the members departed for their respective homes.

The first meeting in 1903 was held in Battle Creek, March 3. There were present at this meeting twenty-seven members. One new member was admittd.

Owing to the meeting of the State Society conflicting with the June meeting of our County Society, the June meeting was not held, bringing the next meeting of the society September 1st, at Albion. Eighteen members were present. At this meeting we were honored with a visit from Dr. A. E. Bulson, of Jackson, and Dr. A. P. Biddle, of Detroit. Six new members were elected and Dr. Eshleman, whose application was presented at a previous meeting, sent in her fee and was also elected to membership.

During the year fifteen new members have been elected, six have removed from the county and one is dead, making a total increase of membership of eight. During the year nine scientific papers have been read and thoroughly discussed before the society. Some of these papers were exceedingly valuable, two were read by gentlemen from a distance, namely, Dr. Angus McLean, of Detroit, and Dr. W. H. Bills, of Allegan.

This is the first year under the new organization plan and the results thus far shown have proved it a success. Our meetings have been well attended, great interest has been shown. Our delegate to the State Society, Dr. A. W. Alvord, made a comprehensive and interesting report of the state meeting, and it was noteworthy that more members of this, as well as other county societies, attended the State meeting this year than in any other year in its history.

Your secretary would suggest that, inasmuch as Dr. E. H. Coller, for many years a member of our county society, is in poor health, with no or very little prospects of any improvement, he be elected to honorary membership in the Calhoun County Medical Society.

W. H. HAUGHEY, Sec'y.

Treasurer's report, December 1, 1903:

Balance, cash on hand, received from Auditing Committee	$ 11.35
Collections from members	148.00
Total	$159.35
Expenditures	147.75
Leaving a balance of	$ 11.60
Dues to the State Society, collected and forwarded to the Editor of the Journal.	$108.00

W. H. HAUGHEY, Treas.

In Memoriam—Dr. Geo. H. Green, Marshall.

EATON COUNTY.

The regular meeting of the Eaton County Medical Society was held at Grand Ledge, October 30th. The following was the program:

1. Call to order by the President.
2. Reading of minutes of last meeting.
3. Petitions for membership.
4. Reports of committees.
5. Election of members.
6. Unfinished business.
7. Paper by Wm. F. Breakey, Ann Arbor.
8. Discussion of Dr. Breakey's paper.
9. Clinical cases and general discussion.
10. Miscellaneous business.
11. Announcements.
12. Adjournment.

The Society was entertained by the physicians of Grand Ledge.

W. H. RAND, Sec'y.

I visited Eaton County Medical Society at Grand Ledge, October 30th. There were seven members present, one member elected and four applications, making twelve present in all. There is no change in the officers as yet.

It was an enthusiastic meeting, President Wm. F. Breakey and Lecturer Jas. H. Reed were both present and read papers which were thoroughly discussed by the members. All present seemed to be deeply interested in the work.

W. H. HAUGHEY, Councilor.

FIFTH DISTRICT MEDICAL SOCIETIES.

A meeting of the Kent, Ionia and Ottawa County Medical Societies was held on Oct. 8, 1903, at Grand Rapids.

PAPERS AND DISCUSSIONS.

OVARIAN FIBROIDS.

S. C. Graves, Grand Rapids: Ninety-five per cent. of all ovarian tumors are cystic or fibro-systic in character. This figure includes multilocular, parovarian, papillamatous, dermoid and fibro-cystic cases. The remaining 5 per cent. represent solid ovarian tumors, which include carcinomata, sarcomata, fibro-myomata and tumors of purely fibroid tissue. The latter variety is the rarest type of ovarian neoplasm.

Presented specimen with following history: Age 28, uterus sharply retro-flexed; mass, size of adult fist, seemingly fixed in anterior uterine wall; supposed to be a uterine fibroid. Operation (coeliotomy) revealed nature of growth to be a fibroma of left ovary, the left broad ligament forming the pedicle; over its surface ran the Fallopian tube. Upon section the structure resembled that of the common uterine fibroid; diagnosis confirmed by pathological report.

PRIMARY SARCOMA OF CLAVICLE.

S. C. Graves, Grand Rapids: Sarcoma of clavicle, sternum, ribs and short bones of hands and feet exceedingly rare. Presented case with the following history: Male, age 27 years; cachetic; inner half of left clavicle perceptibly larger than its fellow. No history of injury or syphilis. Pain upon manipulation of shoulder. Entire bone removed by sawing through center and dissecting out both halves. Difficult to remove inner half on account of exposure of left innominate vein. Microscopic examination showed growth to be a

large round-celled sarcoma. Patient presented (one month after operation), no drooping of affected shoulder. As to recurrence it is impossible to state.

D. G. Cook, of Holland, referred to a case of removal of an entire necrosed clavicle; necrosis due to injury. Recovery rapid and since recovery man has been able to follow occupation without interference. Manner of carriage appears so natural that it would not be noticed that he had lost his clavicle. Patient presented.

INJURIES OF THE KNEE JOINT.

T. C. Huizinga, of Zeeland: The knee joint, being the largest and most exposed, is liable to serious injuries; slight superficial wound or bruising of tissue about joint may result in infection of same. In the treatment of injuries to the knee joint he urges the following: Be surgically clean; secure complete rest by the use of splint; prevent or retard inflammatory action by the use of ice. If there be any indication of pus in the joint open and drain early and freely. And further, if the symptoms do not abate, but life is threatened, a resection or amputation should be performed. Two cases were reported in illustration.

SOME OF THE USES OF ATROPINE IN GENERAL MEDICINE.

C. S. Cope, of Ionia: Atropine acts as an antispasmodic and overcomes constriction of blood vessels; accomplishing dilatation by relaxation of circular fibres, and permitting the vessels to assume a normal lumen. Action especially directed to capillary system. Advises its use in the treatment of appendicitis preparatory to operation and in all cases of abdominal pain. Remedy to be given in hot water, in small doses and frequently, 1/50 gr. of atropine in 3 ounces of water, one teaspoonful every five minutes until relieved. Recommended strongly in hay fever, in rhinitis and acute inflammatory conditions of other mucous membranes; especially in shock and in the hemorrhages of small vessels in obstetrics and gynæcological work.

HEMORRHAGE AFTER CHOLECYSTOTOMY.

Wm. Fuller, Grand Rapids: Case, a robust man; had several attacks of passage of gallstones during the last five years, some protracted and accompanied with jaundice. At time of operation deeply jaundiced; stools gray, urine offensive and loaded with bile, pain in right hypochondrium of spasmodic character. Several large stones removed; gall bladder large, thick, very tense and filled with stones and a viscid yellowish bile and mucus mixed. Eighth day after operation severe hemorrhage from wound; blood thin and did not coagulate. Gall bladder packed with iodoform gauze, compress and tight bandage applied. Next morning he vomited about a pint of blood and subsequently passed some blood by stools, which indicated that the common duct was pervious. Two pills of ..... given every four hours for two days and afterwards one after each meal. Hemorrhage recurred slightly in about four weeks. General condition became worse and he died Sept. 12th. Postmortem disclosed extensive carcinoma of gall bladder and multiple deposits in the liver.

Dr. Fuller raises these questions: (1) Was the hemorrhage due to a stone in common duct, which had ulcerated into portal vein? (2) Was it due to the removal of the pressure within the gall bladder and ducts of the liver with rupture of the distended capillary vessels of the lining membrane? (3) to an altered condition of the blood in the portal system due to the absence of a necessary element resulting from a want of bile in the intestines? or (4) Was it due to malignant disease?

S. C. Graves, Grand Rapids: Post-operative hemorrhage following incision into gall bladder is a most serious and often fatal complication. According to reports in literature it usually occurs in deeply jaundiced patients; but etiology is unknown. The source of the hemorrhage he believed to be the mucous membrane lining of the gall bladder. Jaundice is not necessarily a factor in the etiology of the gall bladder in his experience, as one of his cases occurred in a young woman free from any trace of same. Has had three cases of hemorrhage following operation on gall bladder. The first recovered through the use of compresses; the other two died. One of the latter was one of dilated gall bladder from cancerous obstruction of the ductus communis choledochus and the only malignant biliary case ever operated upon by him.

DIABETES.

James Mulhern, Grand Rapids: Believes the disease to be seated in the liver, that organ centralizing all its energies to the one purpose of elaborating liver sugar, leaving the general system poisoned by the deleterious substances which should be eliminated and robbing it of other substances intended for economic purposes. The cause, he believes, to be a low, depressed state of nervous vitality. The condition may be brought on by a sudden shock, but then it is usually transitory. Indulgence in sugary substances not the cause.

Treatment: Surround the patient with conditions calculated to make him comfortable and free from anxious care. Strengthen nervous system with nerve tonics, chiefly strychnine. Regulate the liver by active hepatics, namely arsenic, calomel, phosphates of soda, podophylin, and in malarial climate quinine.

Push vigorously the hepatic remedies. Keep system free from uric acid, as the effect of an excess on liver is to obstruct smaller blood vessels and thus retard hepatic circulation. Give pancreatin freely to aid pancreatic gland, deprived of its usual help by absence of bile. Give unrestricted diet, as nourishing as possible. Do not be afraid of saccharine substances; they draw but little on the energies of the liver to be converted into glucose. All nervous agitation is best controlled by the use of opium.

CHRONIC CYSTITIS.

F. W. Braley, Saranac: Chronic Cystitis may be defined as a low inflammation of the urinary bladder, attended by a thickening of its various coats. Bacteriology has thrown much light on the causation of this malady. It is not alone sufficient that there be irritation, traumatism, or obstruction, but there must also be an invasion of bacteria either through the blood or the urinary tract. When we consider the pathology of the vesica, in chronic cystitis, we may comprehend how the mucosa congested by the use of irritating drugs and foods by a calculus, injured by unskillful surgical procedure or weakened by a hypertrophying prostate, forms a fertile field for the development of bacteria. The microscope has demonstrated normal urine to be free from bacteria, whilst cystic urine contains bacteria in abundance. However, we are not obliged to depend upon the microscope alone in making our diagnosis, for a turbid, alkaline urine (occasionally acid) containing mucus, pus and sometimes blood, accompanied by painful, frequent, and scant micturation, makes the picture too plain ot admit of doubt. That the disease is more prevalent among men than women is probably due to their more strenuous occupations as well as to anatomical conditions.

The prognosis depends upon the possibility of removing predisposing causes surgically or otherwise. The malady is more troublesome than dangerous to life, and in cases where there is no hypertrophy of the bladder walls, where the patient's age is in his favor, and where the constitution is good, the prognosis is hopeful. Usually the physician is not called upon to attend a case of chronic cystitis until there is tenesmus and incontinence or retention of urine; often the complaint is tenesmus and hemorrhage, and where there has been an extension to the kidneys, there may be suppression. Called to cases of chronic cystitis it becomes the physician's duty first to give relief, then to adopt some form of rational treatment adapted to his patient. If the reaction of the urine be unnaturally acid, an alkali can be used both locally and internally, preferably boracic acid; and if alkaline in reaction, locally a vegetable acid such as citric can be used, and some drug internally that will produce an acid reaction, benzoic acid being in preference. Anodynes should be used as sparingly as possible. All predisposing factors should be removed, displacement of the uterus should be corrected, structures should be dilated or cut, rectal diseases treated, and enlarged prostatic glands given proper attention. Sanitary conditions should be made favorable, and diet and exercise regulated to suit the condition of the patient.

It is necessary to free the bladder of the debris of broken down tissue, of the tenacious mucus, of the bacteria, of the stagnant urine and of all noxious substances, and in these cases this can be done only by thorough irrigation. Each step of the local treatment should be done aseptically. It is not alone sufficient that the catheter and douche bag be sterilized, but the operators hands and the genitalia of the patient should be as carefully prepared as for a surgical operation. The catheter and douche being ready, they may be attached by a Y-shaped instrument which controls the direction of the flow in or out by means of a stopcock; the instrument being of metal can be taken apart and thoroughly sterilized. The catheter is better lubricated by the sterilizing fluid in which it should remain until ready for use, than by smearing it with vaseline, lard, saliva or any other material of unknown sterility.

The catheter introduced, the irrigating fluid is allowed to enter the bladder, first at low-pressure and in small quantities, thus avoiding a spasmodic contraction of the bladder, which is painful, or the forcing back of septic material into the ureter. After the first portion of the irrigating fluid has been drained off, both the pressure and the quantity should be increased, so as to cleanse out the folds and crevices that might otherwise continue to hold deleterious substances. The bladder should not usually be allowed completely to empty itself during the irrigating process, as the suction is apt to draw the mucous membrane into the eye of the catheter with a click which is not only startling but painful. At the end of the irrigating procedure the catheter should be gradually withdrawn with gentle turning, so as to tap any

pockets of fluid that remain unemptied. Sometimes, however, it is best to allow a certain amount of the fluid to remain in the bladder for the purpose of neutralizing and rendering sterile the first portion of the urine.

Regarding the irrigating fluids, they should always be used at a temperature that will not chill and in some cases as hot as can be borne. We should choose those of marked germicidal properties and corrosive sublimate meets this requirement better than any other drug. Commencing with a weak solution of 1 to 20000, it may be increased to 1 to 1000, and considering the scarcity of lymphatics in the bladder it might be safely used even stronger. Among other drugs of known utility are carbolic acid, nitrate of silver, permanganate of potassium, boracic acid, etc. It does not matter so much which is chosen, but the treatment must be systematic, thorough and as frequent as the case may require.

To summarize, the treatment is:

1. Remove as far as possible predisposing factors.
2. Treat the bladder as a septic cavity.
3. Treat the bladder by both internal and local medicaments.
4. Practice asepsis in every step of procedure.
5. Use germicidal fluids of sufficient strength to be effectual.

URINARY CALCULUS.

John Brady, Grand Rapids: The urine is distinguished from all other animal fluids by the fact that it represents only the products of the waste of physiological disintegration of the body. It is a solution of the nitrogenous excrementitious matters of the animal frame. If its elimination from the kidney be in any way arrested or impeded, its accumulation in the system produces a disturbance of the vital functions which is more or less severe according to its special character and the rapidity of its production. Its poisonous influence is especially manifested in its action upon the nervous system, causing abnormal irritability, derangement of the special senses, delirium, insensibility, coma and death, a complete stoppage of urea producing a fatal result in three or four days; and yet, in spite of all that, we are not to consider the excrementitious substances, poisonous or even deleterious in the quantities in which they are normally found in the animal solids and fluids. Can it be that they are as essential to life as the nutritious materials supplied by the food?

When a stone finds its way into the bladder from the kidney, it may give rise to few symptoms beyond those of slight urinary irritation. The patient may be conscious by his sensations that a bladder exists, but no more, and when the stone has passed with the urinary stream, that sensation disappears. When the calculus rests in the bladder and increases, it makes itself known by more characteristic symptoms. In the majority of cases the symptoms are so slight that they are disregarded. In the minority, they are far from slight or trivial. In fact they are very annoying and painful; nevertheless, a positive diagnosis cannot be based upon symptoms only. The symptoms of stone are subjective, they are those given by the patient, they are possibly suggestive of the affection, but not conclusive—they may all be produced by other bladder affections. The only conclusive evidence is that furnished by the physical examination of the bladder, by the sounding of the patient with a metalic sound or catheter, and the ringing of the stone against the end of the instrument.

Two cases were reported in illustration and specimens shown.

S. C. Graves, Grand Rapids, presented a vesical calculus removed at autopsy by Dr. H. O. Sarber, Rockford, which weighed almost 30 ounces when first removed, and is to-day (it is several years old) as large as an ostrich egg.

APPENDICITIS SIMULATING TYPHOID FEVER.

Ralph H. Spencer, Grand Rapids: So much has been written in the last few years about appendicitis that it would seem to be difficult to say anything new on the subject.

He has recently, however, treated a case which had such obscure and masked symptoms and, for about a week, so closely simulated typhoid fever, that he thought it might be of interest to report the manner in which the case was worked out to a correct diagnosis.

Patient—H. P., aged 21. Occupation, house porter in hotel. Saw him first, August 18, 1903.

He gave a history of not having felt well for a week past; complained of feeling tired; of having continual abdominal pain and diarrhœa; also, headache.

Temperature, at first visit, 102°; pulse, 100. Complexion, sallow; tongue, furred; no marked gastric disturbance; no vomiting.

He saw the patient for three days at his room, his symptoms remaining about the same; temperature varying from 99° to 102.6°; pain in bowels, and diarrhœa continuing; I made a diagnosis of typhoid fever, and ordered him to Butterworth Hospital. After reaching the hospital, where accurate record could be kept and diet regulated, his temperature ran lower for several days, but

the diarrhœa was still persistent, the discharges being of a pea soup character.

Diazo test of urine gave negative results; bowels were tympanitic from the beginning.

On the 25th, or when the patient had been under observation for seven days, he discovered a small area of dullness over the ileo-cæcal region, and that, with muscular rigidity and pain on deep pressure, also the temperature curve failing to be typical of typhoid, led him to suspect that there was an abscess forming as a result of ulceration and perforation of the appendix. This theory was strengthened by a daily increase in the area of dullness, and on August 30th, Dr. Harrington began making a daily blood count. The result follows:

August 30.

Reds	3,750,000
Whites	12,500
Hg.	80%

August 31.

Reds	4,120,000
Whites	16,000
Hg.	75%

September 1.

Reds	4,200,000
Whites	20,000
Hg.	75%

By the result of this blood count it will be seen that there was a daily increase in leucocites, which strengthened the theory of appendicitis; in fact, by this time, the tumor was perceptible to the eye, and gave a tympanitic note on percussion, showing that gases were forming in the walled-off abscess.

Operation was advised, and performed September 2, or just two weeks from the day the patient was first seen.

Operation consisted of simple incision just above the McBurney's point, which evacuated a very large quantity of fœtid pus, and several fecal concretions floated out.

No attempt was made to find the appendix. Drainage was established through two pieces of rubber tubing extending eight inches into the pelvis. These were cut off from time to time as granulation crowded them out, and were all out in about two weeks.

Patient made an uneventful recovery.

DIAGNOSIS AND TREATMENT OF ACUTE GASTRO-INTESTINAL DISEASES OF CHILDREN.

Collins H. Johnston, Grand Rapids: Our knowledge of the etiology of these diseases is as yet quite uncertain. We know in a general way that disturbances of the stomach and bowels in children may be due to nervous influences alone, or may be caused by various specific organisms which produce disease either of themselves or through their toxins. The small intestine, especially the lower part of the ileum, and the colon are usually the seat of trouble.

The differential diagnosis of these diseases is frequently very uncertain. Vomiting may be a very misleading symptom and may occur in disturbances of any part of the gastro-intestinal tract. Serious symptoms are often found at the autopsy to have been produced by no pathological lesion whatever, while ulcers of the stomach may be accompanied by no vomiting nor diarrhœa whatever. The height of the temperature, the pulse, and the general appearance of the infant, are important diagnostic, as well as prognostic, features. In general, an elevated temperature of short duration points toward functional toxic disturbances, while a long continued fever indicates inflammatory changes.

The most frequent disorder of the stomach in infancy is acute gastric indigestion. Its cause in almost every case is impure or improperly prepared milk. The symptoms are nausea, gas in the stomach, its resulting distension, and pain and vomiting. The bowels may be constipated or relaxed. There is little or no fever. There may be an entire absence of vomiting. Prognosis is usually good. The treatment is to empty the stomach by washing it out, or by the administration of warm water. Dr. Johnston does not think lavage of the stomach in infants is resorted to as often as it should be. It is very easily performed in children under two and one-half years of age, and its effects are sometimes simply marvelous. For its performance, we use a soft rubber No. 10 catheter. To this is joined, with a short glass tube, a couple of feet of rubber tubing and a glass funnel. The child is held in a sitting posture and the catheter passed down the esophagus about ten inches. From two to six ounces of water is poured into the funnel, which is then lowered and the water allowed to run out. This procedure is repeated until the fluid comes back perfectly clear. In this, as well as in all other acute gastro-intestinal diseases in infancy, no food whatever should be given for from four hours to four or five days, depending upon the gravity of the case. Dr. Parke, of Birmingham, Ala., has recently reported a case in which food was withheld for eight days from an infant of ten months with acute ileo-colitis, and the child recovered. Nothing whatever was administered during this time excepting water. No milk should be given for at least three days and frequently

it must be withheld for at least two weeks. During this time barley water, albumen water, peptonoids, panopeptone, or raw beef juice, in a dilution of one to ten, may be used. If a child is nursing the breast should be withheld altogether for at least twenty-four hours. A most common mistake is to begin food too soon and give too much, especially of cow's milk. A laxative may be given of one or two teaspoonfuls of castor oil or a grain of calomel in divided doses. Acute gastric catarrh in infants is rare. It is characterized by high fever. There may also be vomiting, delirium and stupor, symptoms which may accompany the development of almost any acute infectious disease. Instead of the cessation of the vomiting, however, in twenty-four to forty-eight hours, as in scarlet-fever, or the continuance of the cerebral symptoms as in meningitis, or of the development of pulmonary symptoms, as in pneumonia, the vomiting continues and the symptoms point to the abdomen rather than the head or thorax.

The symptom is much the same as with all acute indigestion. Benefit sometimes follows the use of bismuth subnitrate. The summer diarrhœas of infancy may be either infectious or non-infectious. Of the latter, the acute nervous diarrhœas form an important group of cases. It is due merely to exaggerated intestinal peristalsis in infants whose nervous systems are easily disturbed. The causes are various, such as heat, cold, fright, and dentition. The symptoms vary in intensity, the child is irritable, restless and sleepless, with usually slight abdominal pain. The intestinal discharges may vary from two to three to ten or twelve in twenty-four hours. Vomiting is rarely marked. With proper treatment the symptoms usually disappear in a few days. One or two drams of castor oil or a grain of calomel in divided doses may be given. The child should be kept in bed and food withheld altogether for twelve to twenty-four hours. Excessive peristalsis and pain may be relieved by a few drops of paregoric and hot applications to the abdomen. If there is a tendency for the diarrhœa to continue, bismuth may be given. The value of intestinal antiseptics in diarrhœas in infancy is still an unsettled question. Salol, resorcin, sulphocarbolates, and the salicylates, all have their advocates. Dr. Johnston gives salol in doses of one grain every three hours to children of six months of age. Sub-nitrate of bismuth is the most useful of all drugs in diarrhœas in infancy and may be given in ten-grain doses every two hours to a child one year old.

Acute fermental diarrhœas represent the greater proportion of the intestinal diseases which occur in infants during the warm months of the year. They are non-inflammatory and are caused by impure and improper foods and bad hygienic surroundings. There may be little or no fever, or the temperature may be high, and vomiting active. The diarrhœal discharges may vary greatly in frequency, amount, color, and consistency. It is distinguished from the inflammatory form of diarrhœa by its sudden onset, followed in a day or two by a normal temperature and a rapid disappearance of the severe symptoms, as soon as the intestine has been thoroughly emptied of its putrefactive contents. We must remember that cholera infantum and the acute inflammatory intestinal diseases are usually preceded for a number of days by this fermental form of diarrhœa. Such cases should never be neglected. The treatment is to remove the source of disturbance by thoroughly emptying the intestine. Castor oil and calomel may be given. Where there is a tendency to a prolongation of the symptoms, irrigation of the colon with normal saline solution once a day is indicated. Food should be withheld for at least half a day. Stimulants may be needed. Bismuth subnitrate should be given until the diarrhœa has ceased. No milk should be given for several days. Opium is contraindicated, as a rule. Toward the end of the attack a few small doses of paregoric may be used with caution to diminish pain and control excessive peristalsis which may result from nervous exhaustion. Hperpyrexia should be treated by full baths in water at 90 degrees Fahrenheit.

Acute ileo-colitis or acute inflammatory diarrhœa is the cause of the large infant mortality during the summer months. In this form of disease, bacteria or their toxins make their way into the general circulation. For a day or two the only symptom may be a diarrhœa, but at the time when in any of the non-infectious cases recovery begins, a child in this disease becomes worse, and fever appears. The symptoms are well known. The lesions are easily found in the lower part of the small bowel and in the lower part of the ileum and the colon. The upper parts of the small intestines are generally empty and the mucous mebrane normal. Cholera infantum is a severe, virulent infection, accompanied by rapid development of choleriform diarrhœa, grave depression of the heart and nerve centers. Terminal symptoms are due to the extreme abstraction of fluid. Vomiting and diarrhœa may come simultaneously. The stools may be odorless or very offensive. Much may be done in the way of prophylaxis. Too much food is frequently

given to infants during hot wheather when the digestive functions are weakened by the excessive heat. An extra amount of water should be allowed and the milk should be fresh and as nearly sterilized as possible. It must be understood that not only bacteria but also their toxins which are not destroyed by pasteurization or sterilization may produce most serious results. Over-feeding, too frequent feeding, and the use of improper foods are most dangerous to infants in warm weather.

Prompt attention should be given to all slight gastro-enteric derangements. A water diet for a few hours and a gradual return to ordinary food may make further treatment unnecessary and prevent a long attack of diarrhœa. Sterilization of milk by heating to a temperature of 212 degrees injures the value of milk as a food very materially and is to be avoided. When a perfectly pure milk can be obtained it is better employed raw, but as this is rarely possible in cities, it is safer to purify by heating to 140 degrees Fahrenheit for fifteen minutes. This process kills from 98 to 99 1-2 per cent. of the bacteria without interfering in any way with its value as a food. The baby should be kept out-of-doors as much as possible. The clothing should be light. The tub bath of 90 degrees for fifteen or twenty minutes every three hours when the temperature exceeds 102 1-2 degrees in the rectum is a most valuable agent for allaying restlessness and reducing temperature and one Dr. Johnston has resorted to for many years. The child's head should be supported by the nurse and its body briskly rubbed to promote cutaneous circulation. The temperature of infants should always be taken in the rectum. The return to ordinary diet should be slow and carefully regulated. The quantity of nourishment at each feeding should be from one-fourth to one-half the amount given in health. It is seldom necessary to nurse or feed a sick child oftener than every two hours. After the period of water diet it is the habit of the writer to employ barley water when the motions are particularly foul, and the abdomen of the child is distended with gas. When these conditions are not marked, resort may be had to diluted broths and other albuminous foods. Inasmuch as broths do not keep well they should be prepared daily. The first indication of medicinal treatment is to evacuate the entire digestive tract. The colon may be emptied by irrigation, but to clear the small intestines castor oil or calomel may be used. When vomiting is not marked castor oil should receive the preference. The drugs that are usually resorted to by Dr. Johnston are salol, bismuth and paregoric. Stimulants are needed in a great many cases. The daily quantity of brandy or whiskey should rarely exceed two to four drams and is best administered in a one to eight dilution with sterilized water. In cholera infantum or any severe ileocolitis, morphia, grain 1-100, and atropia, grain 1-800, may be given hypodermically to a child a year old and repeated every hour until the desired effect is obtained. To supply the tissues with fluid removed by the intestinal discharges, sub-cutaneous injections of normal solution are indicated. Half a pint may be injected into the cellular tissue of the abdomen or buttocks. Stimulants may also be administered hypodermically, if necessary.

GENESEE COUNTY.

The second annual meeting of the Genesee County Medical Society was called to order in the Dryden Parlor at 2:30 p. m. Nov. 7th, President Wheeler in the chair.

Out-of-town guests present: Drs. Leartus Connor and Hal. C. Wyman, of Detroit; Drs. Aitcheson and Uloth, of Ortonville.

The following officers were elected for the ensuing year:

President—J. F. Rumer, Davison.

Vice-President—R. N. Murray, Flint.

Secretary-Treasurer—H. R. Niles, Flint.

Board of Directors—C. B. Burr, Flint; L. J. Locy, Davison; Annie Stevens Rundell, Flint; A. R. Ingram, Fenton; M. S. Knapp, Flint.

J. B. Rice, of Fenton, and B. F. Beckwith, of Clio, were unanimously elected to membership.

The following papers were read and discussed:

"Syphilis," F. H. Callow.

"Syphilis in Its Relation to Diseases of the Nervous System," C. B. Burr.

"The Prophylaxis and Treatment of Syphilis," B. Cogshall.

An intermission was taken and at six o'clock thirty-five members and guests sat down to a banquet in the Dryden cafe.

The evening session was called to order at 7:30, and the reading of papers resumed:

"Gonorrhea," G. V. Chamberlain.

"The Treatment of Gonorrhea," J. H. Charters.

There were fifty physicians in attendance and the meeting was unusually interesting.

H. R. Niles, Secretary.

HILLSDALE COUNTY.

Program of the annual meeting of Hillsdale County Medical Society, November 20th, at Hillsdale:

PROGRAM.

Court House, Hillsdale, Mich., 1:30 p.m.

Call to Order by President.
Roll Call.
Reading Minutes.
Admission of New Members.
Election of Officers.

Continued and Relapsing Fevers—F. H. Spence, Hillsdale. Discussion opened by D. W. Fenton, Reading.

Smallpox——Max Vardon, Hillsdale. Discussion opened by Silas B. Frankhauser.

Retro-Displacement of the Uterus—Hugh D. Wood, Angola, Ind. General discussion.

Abdominal Surgery—E. B. Smith, Detroit. General discussion.

Relation of the Appendix to Pelvic Disease—Reuben Peterson, Ann Arbor. General Discussion.

President's Annual Address—Bion Whelan.

HERBERT FAZIER, Secretary.

HOUGHTON COUNTY.

The Houghton County Medical Society met at Houghton, Nov. 2nd.

There were sixteen members present at our November meeting. After routine business, the programme of the evening was opened by W. S. Jackson, who read a paper on "Treatment of Suppurative Otitis Media." The doctor said this was like any other abscess and should be opened early, as soon as bulging of the drum membrane was noticeable. By evacuating the pus, we avoid such serious complications as mastoiditis, meningitis, abscess of the brain, etc. It is well to examine the ears of children when they are suffering considerable pain and are not old enough to give you an idea of its cause or location. If you puncture the drum membrane and find only a little serum instead of pus, no particular harm has been done; if pus does not appear in a little while, the membrane will heal in about three days.

The next was a symposium on typhoid fever. The Etiology of Typhoid, W. K. West; Morbid Anatomy, A. B. Simonson; Symptoms, S. S. Lee; Diagnosis, Prognosis and Treatment, C. H. Rodi.

Discussion opened by J. E. Scallon followed by W. T. S. Gregg, A. F. Fischer, P. D. McNaughton, W. S. Jackson and S. C. Johnson.

JAMES HOSKING, Secretary.

IONIA COUNTY.

At the annual meeting, October 15, the following officers were elected:

President—W. L. Barnes, Ionia.

Vice Presidents, J. F. Pinkham, Belding; Chas B. Gauss, Palo; E. F. Beckwith, Ionia; W. H Flint, Clarksville.

Secretary—F. W. Braley, Saranac.

Treasurer—G. A. Stanton, Belding.

Censors—F. W. Martin, Portland; W. L. Barnes, Ionia; C. S. Cope, Ionia.

I also enclose a brief abstract of Hon. F. D. M. Davis' address.

F. W. BRALEY, Sec'y.

THE RELATION OF MEDICINE AND LAW.*

The physician, because of his position and acquaintance with the family, their physiology and what they need and what they eat, can and should advise to the end of their general health as men and women; he has a better opportunity than any one else of learning whether they are partaking of impure foods, and upon learning that such is the case should at once trace its source and report to the authorities; whether it be impure milk, dough, coffee, sanded sugar or sanded mustard, the family looks to him to warn them of danger, the law makes him the guardian.

A man has met with an accident; he calls a surgeon who sets it; the law says before he can do so he must be possessed of reasonable skill and learning before he holds himself out as able to do this work; that in reducing the fracture he must exert his best skill and, if necessary, call to his aid the skill of others to the end that the patient may have all the benefit possible from science; but the law requires no more of him in such matters than in the tracing out of impure food and impure water supplies. * * * * * He should ever be watchful of the interests of the community.

There is a place when the physician occupies a very important position that requires the keenest judgment, discernment and study, and upon that skill, honesty and judgment must the law largely rely; that is in cases of insanity, that sad visitant of the human family. To properly discern it cannot, in my judgment, be done in twenty minutes or half an hour as is frequently done.

Apply the golden rule in the exercise of a function that the law requires you to perform; a law that is a relic of barbarism. Just think of the power of a judge to send a man or woman to

*Abstract from the address of Hon. F. D. M. Davis, given at the meeting of the Ionia County Medical Association, Oct. 15, 1903.

that hell of despair called an asylum upon the testimony of two physicians who are called into the jail, or perhaps into the judge's office, and after twenty minutes or half an hour of trying to talk with the patient and listening to what interested parties may say as to peculiar actions, pronounce him insane and the patient goes by law to a living grave without a ray of hope. If the mind is not already gone the last glimmering of reason must necessarily soon leave the patient in the region of eternal darkness.

I do not criticise the doctor. He has acted upon the information he has at hand and found the best conclusion he can in the time limited, but I do denounce the system that will enable any relative or man to get rid of another, to get their property or for other corrupt reasons, to send the victim to an asylum in such a manner. It ought to be only upon the judgment of a jury of twelve men, upon the testimony of men or women thoroughly examined as to the actions and conduct of the alleged insane, and upon the testimony of physicians who have had days and weeks of opportunity to examine them. The murderer who is known to have killed his victim with premeditation is entitled to those safeguards. Why should not the person who stands charged with no wrong?

The physicians are the greatest lever in bringing about a reform in the laws of this state upon this question. You owe to yourself, your friends, your county and state this duty. I hope you may see it as I do, that you may feel it as I have felt it, when I have seen the poor wretches beg for a chance to demonstrate their sanity.

ISABELLA COUNTY.

The annual meeting of the Isabella County Medical Society was held October 29, at Mt. Pleasant. President, P. E. Richmond, of Mt. Pleasant, was in the chair. There were present, Jas. McEntee, C. D. Pullen, A. T. Getchell, C. M. Baskerville, Mt. Pleasant; D. M. King, F. Taylor, H. V. Abbott, Shepherd, and C. J. Abbott, Winn.

The secretary's report showed a charter membership of twelve. Since then (March, 1903) four others have been added, making a total of 16.

The delegate to the State Society (Dr. McEntee) made his report. It described a very successful, pleasant and enthusiastic meeting, and foretold a very bright future for the society.

President's address, "A Review of the Past Work of the Society," P. E. Richmond.

ELECTION OF OFFICERS.

President—Jas. McEntee, Mt. Pleasant.
Vice-President—D. M. King, Shepherd.
Sec. and Treas.—C. M. Baskerville, Mt. Pleasant.
Board of Directors—P. E. Richmond, Mt. Pleasant, 3 years; B. T. Johnston, Rosebush, 2 years; H. V. Abbott, Shepherd, 1 year.

An interesting discussion was brought up by C. D. Pullen on the treatment of typhoid fever with reference to the use of acetozone. The final conclusion being that while it greatly mitigated the severity, it apparently had no effect upon the course of the disease. It was thought that the free use of water, which the treatment entailed, also had a very favorable effect.

The subject "Should the Clergy Pay for Medical Treatment?" was then informally discussed for some time, after which the society adjourned to the Bennett House for supper.

The next meeting (in January) will be held at Shepherd.

C. M. BASKERVILLE, Sec'y.

LENAWEE COUNTY.

The regular meeting of the Lenawee County Medical Society was held at Adrian, October 13.

President C. Kirkpatrick being absent, Samuel Catlin of Tecumseh presided.

After the regular routine of business, an interesting paper was read by Dr. Eccles of Blissfield, on "Acute Diarrhœas of Children and their Treatment." This was one of the most interesting and most discussed paper of any that has been presented to the society.

A paper by J. C. Johnson, of Adrian, on "Diagnosis and Treatment of Smallpox." The doctor has had considerable experience in smallpox and gave a very interesting paper.

Lenawee County now has 30 members, and the prospects for next year are good, as we are now getting thoroughly organized. We expect our next meeting will be held at Blissfield, and the Blissfield doctors are good entertainers and good hustlers for the good of Lenawee County Medical Society.

D. L. TREAT, Sec'y.

ACUTE DIARRHOEAS OF CHILDREN AND THEIR TREATMENT.

R. MACKLIN ECCLES, BLISSFIELD.

In no class of cases is the physician at such a loss to know just what to do to relieve the little ones suffering from the acute diarrhœa incident to childhood. The object of this paper is to get more light upon the subject, one in which I am deeply interested. For convenience we will offer the following divisions of the acute diarrhœa:

Infectious—1. Acute mycotic (acute gastro-in-

testinal infection); 2. cholera infantum; 3. ileo-colitis.

Non-Infectious.—1. Mechanical; 2. irritative; 3. nervous; 4. eliminative.

I shall refer to each in a few words.

(1.) Mechanical results from the infection of foreign bodies or food stuffs, which from their character and their unsuitability to the feeble digestion of the infant act as mere foreign bodies. By directing blood and nervous energy to the intestines in the absence of absorption, this material then produces diarrhœa until nature or a purgative empties the intestines.

The diagnosis in this condition is easily determined from the history, and treatment, plain—get rid of the offending material by a cathartic, preferably, oleum riscini.

(2.) Irritative. The mechanical merges inperceptibility into the irritative where such irritating substance as the organic acids of fruit or their seeds or various drugs are added. In this condition diagnosis is made from the history as above stated and treatment should be of a mild bland nature, avoiding cathartics.

(3.) Nervous diarrhœa forms a large and important group of cases. The process of dentition is probably an irritation which leads to diarrhœa by reflex action. There certainly are diarrhœas which appear with the onset of dentition, persist in spite of ordinary treatment and cease on the eruption of the teeth. Diagnosis in these cases is easily determined. If examination of the gums reveals them swollen and if we find the tongue clean, with no history of vomiting, and a rise of temperature, we may reasonably be certain the trouble arises from dentition.

Fright and surprise may cause slight temporary diarrhœa. Fatigue arrsts digestion and so causes diarrhœa. Cold, acting through nervous and vasomotor mechanism, and in the same way extreme heat, is the all important cause of summer diarrhœa.

(4.) Eliminative diarrhœa occurs in cases having an inefficiency of excretory organs other than the intestines or toxæmias of any kind. Renal insufficiency and diarrhœa met in acute infectious fevers are of this nature.

(II.) Infectious diarrhœa, acute mycotic or acute gastro-enteric infection. This is the great summer trouble of infants, occurring as regularly as the heat of the summer. In this form bacteria or their toxines make their way into the general circulation making a grave systemic intoxication. Putrefaction produces the toxic material which becomes absorbed.

The exciting cause is the direct introduction into the alimentary tract of infection. Feeding infants upon cow's milk, which has been brought from a distance and kept perhaps in hot weather and dusty cites, provides the ideal condition for infection.

Predisposing causes are age (from birth to two years), general feebleness from whatever cause and bad hygenic surroundings.

Symptoms.—The symptoms may in mild cases be those of the previous groups slowly and gradually exaggerated and prolonged. Time is often lost by parents thinking the slight diarrhœa of but little account until systemic infection takes place, which we recognize by the stools becoming more frequent, fever, restlessness, rapid pulse, beginning palor and loss of weight. Some cases are mycotic from the onset, and violent vomiting, high fever, stupor, delirium, or convulsions may usher in the attack. Increasing diarrhœa soon appears and rapidly leads to the usual signs of exhaustion of the fluids of the body, as thirst, dry tongue and skin, sunken eyes and fontanels. Puny infants succumb in a few days, often hours in spite of treatment.

Pathology.—Stools rapidly become fluid and bulky, containing undigested food particles. At the onset the stools are of acid reaction, microscopical food particles are found, epithelial cells, scanty leucocytes and hosts of bacteria. In the lower part of the small bowels and in the colon lesions are found. The upper part of the small bowel generally empty and mucous membrane normal, gases often found in the colon, Pyers patches are congested and swollen.

(2.) Cholera infantum, the second of the infectious diarrhœas, is similar to the gastro-enteric infection just described, only in a more aggravated form. The discharges from the bowels are more choleric in form, accompanied with grave depressions of the heart, the nerve centers and of the nervous system, generally. Twenty-four hours will very frequently prove fatal. The patient shows extreme collapse, high fever, clammy skin, and thready pulse as in cholera. Patients who do recover often lapse into ileo-colitis. I have a little patient now under treatment that I found with a temperature of 107° a few weeks ago, with all the symptoms of cholera infantum. She has lapsed into ileo-colitis. Fortunately only about 2% of cases are cholera infantum.

(3.) Acute ileo-colitis, or dysentery. In this group we place those cases which show a pathological process more advanced than mere congestion with exaggerated function (mucous production) and degenration (shedding of cells) of the epithetitial lining of the intestine. We now find all grades from a slight superficial abrasion

to large deep ulcers, with undermined edges, involving perhaps all coats of the bowel.

Pathology, the streptococcus is present, the mildest form is inflammatory, a more advanced stage is catarrhal ulceration quite extensive but not deep. Follicular ulceration is the commonest form, several small ulcerations being present. Membranous is the most virulent, but fortunately rare.

Symptoms. In the cases due to inflammatory infiltration the onset is sudden though the first twenty-four hours may be taken up by symptoms of mere indigestion, pain, vomiting and repeated stools. Later the old symptoms appear, frequent and small stools consisting mostly of blood-streaked mucus passed with great pain and tenesmus, threatening prolapse of the rectum. The motions generally become dark brown in color and tenderness is elicited over the colon. High temperature gradually subsides while prostration slowly increases. Symptoms remain severe a week usually. The first improvement in the stools is the disappearance of blood, then the frequency and tenesmus diminish, while the mucus remains for a week. In catarrhal ulceration all the symptoms are more severe.

The most virulent form and that which they are undoubtedly having in and about Bowling Green at the present time, in which nearly every case dies, the membranous inflammation produces a sudden severe onset of symptoms with vomiting, high fever and fluid stools, temperature high at onset from 102-5°, stools show more blood and pieces of pseudo-membrane are to be looked for.

Treatment. In all cases of summer diarrhœa fresh air is of greatest importance. Keep patient out of doors as much as possible; when this is impossible, keep sick room cool, airy and not too bright. Quietness is essential as the little ones are frequently highly nervous and irritable. Handle your patient as little as possible. Clothe the patient in light material and arranged so as to be easily removed should it become soiled.

Keep sick room scrupulously clean. Reduce the temperature by cold bathing, which not only reduces the temperature, but allays restlessness. I am in the habit of applying a cloth wrung out of cold water and applied to the body from axilla to knees frequently sprinkling on cold water so as to avoid fright to child and applying so frequently, at the same time keeping the hot water bottle at the feet. Evaporation is increased by fanning briskly while it is in the pack. I keep the patient in the pack from 15 minutes to an hour, and soon as temperature is sufficiently reduced, I remove the pack and put on dry clothing.

When the temperature reaches 102° or above, I frequently employ the bath tub, submerging the child all except the head, and leave in water from 10 to 20 minutes, having the water about 100° first and gradually cooling it to 80° by the addition of ice.

In all cases I discontinue the milk diet, in fact any food for several hours, because at the onset of acute diarrhœa digestion and assimilation are practically arrested and food, instead of assisting the little patient, works harm. For the first 24 hours I give boiled water with a pinch of salt added and give this at regular intervals, say every hour, giving one ounce, in order to excite as little gastro-enteric irritation as possible.

After giving the hot water treatment for 24 hours, I begin, if there be gas and stools offensive, giving some of the farinaceous foods. I am partial to rice water, cooking the rice three hours and adding lime water to it; of course oatmeal, tapico, sago or corn starch might do equally as well. I give one-half the quantity the child has been in the habit of taking and at regular intervals. When the stools are not offensive and there is but little gas present, I give the albuminous foods, such as albumen water and liquid peptenoids. In giving the albuminous foods, have them well diluted and as they do not keep well, they should be frequently prepared. Albumen water is best prepared by squeezing the white of one egg through sterilized gauze into a teacupful of boiled cold water, add to this a little salt and a quantity of sugar and, when necessary, a teaspoonful of brandy. The juice of rare beef expressed by means of a meat press and diluted one part to 10 of water makes an excellent diet in some cases and the liquid peptonoids 1 to 10 are fine.

Do not return to a milk diet until several days after the stools have become normal.. Begin it by adding one teaspoonful of cream to the rice water. If this gives no distress, gradually increase it. For several weeks, yes months in some cases, you will have to be guarded in diet. Protect the abodmen of the little one with a flannel binder, as sudden changes of temperature are to be avoided. Forbid potatoes, corn, tomatoes and all kinds of fruit.

Medicinal. Empty the stomach if the initial vomiting has not cleaned it. This is best done by washing, but if impossible, I do this: Give large draughts of water and excite vomiting by tickling the fauces. Empty the colon by enemas and the small intestines with a cathartic, preferably, castor oil ℥i to child under 6 months of age, ℥ii for one year old and ℥i for over three years. If vomiting is a marked initial symptom calomel

should be employed. I usually give ¼ grain tablet triturates every hour up to 8 doses, or until the characteristic green stools are seen. If motions occur with great frequency and are fluid, all purgatives should be avoided, stomach washing and colon irrigation taking their place. Wash the stomach once, but the colon every two hours.

The remedy which has been in greatest favor for several years is bismuth subnitrate, given in large doses, but from my own experience I have obtained better results from a combination of the antiseptics, a favorite prescription being:

Zinc sulphocorbulate	1-10 gr.
Bismuth salicylate	1 gr.
Salol	1-5 gr.
Pulv. pepsin	1-2 gr.
Oleum Gaultheria	2 s.

The Columbus Pharmacal Co. put this combination on the market and I have used it quite extensively this season with excellent results.

Arsenite of copper in 1/200 gr. doses for a child one year old, every three hours, is an excellent preparation after the fever has subsided and the stools lost their offensiveness. Where the stools are acid and make the buttocks sore, I give lime water or sodæ bicarb., also chalk mixture. Do not give opiates unless pain is severe, and then give alone, not in combination with the diarrhœa mixture. Tinct. opii camph. is the best preparation.

Cocaine suppositories from ¼ to 1 gr. are best to relieve tenesmus.

Now, gentlemen, the above line of treatment applies to most of our acute diarrhœas of children, but in cholera infantum the condition of intoxication is so great as to demand the most urgent and active treatment. In this condition, first clear the stomach and colon as indicated above by lavage and irrigation, as the absorptive processes are at a standstill in the stomach and intestines. Hypodermic medication must be relied upon to control the toxines of the heart and nervous system. Morphine 1/100, and atropine 1/800, may be given to a child one year old and repeated every hour until desired results are obtained.

Intracellular injection of normal salt solution is indicated to replace the watery drain. One-half pint may be injected into cellular tissue of abdomen, buttocks or thighs.

Keep temperature down by means of cold bath. Apply ice cap to head and irrigate colon with ice water. Stimulants hypodermically if vomiting is severe; whiskey, ether or camphor may be used.

MACOMB COUNTY.

The meeting of the Macomb County Medical Society was held at Lenox, October 29. Dr. Parisot, Mt. Clemens, read a paper on "Abortion, Its Practice." Dr. Parkin, Romeo, read a paper on "Otitis Media Chronica."

JOSEPH M. CRAMAN, Sec'y.

OTITIS MEDIA PURULENTA.*

R. L. PARKIN, ROMEO.

These are cases in which a former prulent inflammation has resulted in a permanent distruction of some of the tympanic structures.

The discharge has ceased and we are called upon to relieve symptoms due to certain changes which have occurred in the tympanum from adhesions or results of the purulent inflammation.

We find conditions following an acute or subacute attack, viz: Discharge, a permanent feature, especially in children and usually following one of the exanthemata. Pain is not so prominent a feature although in a circumscribed inflammation of the external canal, due to infection, we may have intense pain or, if the upper part of the cavity is affected, great prostration and rapid rise of temperature may develop with but little discharge. Pain may be spread over the whole temporal region and not localized. The function of the organ may be but slightly impaired.

In the chronic cases the symptoms to which these changes give rise consist usually in an impairment of function of the organ to a more or less extent.

Impairment of hearing is less marked following purulent inflammation than where it occurs from a non-suppurative inflammation. Where a suppurative inflammation has existed for a length of time a condensing of the mastoid often occurs. The mastoid becomes the seat of intense pain, constant or in paroxisms, and yet there may be no evidence of acute inflammation of the mastoid or middle ear.

Treatment.—Cleanliness in any case is necessary. If in spite of treatment the discharge continues, we are warranted in the supposition that the osseous structures have become involved and its removal only can give relief. When the more acute symptoms have passed away and discharge remains, irrigation, followed by installations of mild metallic astringent, often hastens resolution. In sufflations in slight discharges. Attention to the upper air passages is of the greatest importance as it guards against many attacks and prevents recurrent attacks.

If the upper part of the tympanic cavity is the seat of the process, first relieve the pain, abort the local condition, or, if too late, evacuate.

*Abstract of paper read at meeting of the Macomb County Medical Society, at Richmond, Oct. 29th.

The internal use of analgesics is contraindicated after the first 24 hours, as they often mask the symptoms. Ice coil should not be persisted in for more than 48 hours. Where an early mastoid operation is performed, we avoid a rapid extension and destruction, and the period of convalesence is greatly shortened, hence recurrence is seldom.

Opening of the drum membrane for drainage is often successful but yet not advisable, due to possible infection.

In the chronic form of cases when the changes are that of hypertrophic conditions producing adhesions between the various members of the middle ear, thickening of the drum membrane with more or less destruction or chronic congestion of the lining membrane of the middle ear. The treatment must be directed to each individual necessity.

The snare, knife, syringe or curette is often the means of great relief and permanent cure. Where the conditions exist in one ear the effect upon the organ of the opposite should be carefully considered.

MARQUETTE COUNTY.

The fall meeting of the Marquette County Medical Society was held at Ishpeming, October 13th. It was the most enthusiastic meeting held up to date. Most all the members were present. Owing to the large amount of official business transacted, only one paper was read.—"Diabetes," by H. W. Sheldon, Negaunee. Two cases of exophthalmic goitre were presented by the staff of the Ishpeming Hospital.

H. J. Hornbogen, Sec'y.

MECOSTA COUNTY.

The annual meeting of the Mecosta County Medical Society was held at Big Rapids, October 23. Guests were present from Grand Rapids and Reed City, and interesting papers were presented by Schuyler C. Graves, president of the Kent County Medical Society, and by J. L. Burkhart, of Grand Rapids, who has but recently returned from army service in the Philippines. The Society was entertained at a complimentary luncheon at the Northern Hotel by druggists C. H. Milner and Geo. F. Fairman. Twenty-four were present at luncheon, and nearly all responded to toasts before the close of the evening. It was by far the most pleasant and profitable meeting this Society has ever held. Officers were elected as follows:

President, B. F. Brown, Morley.

Vice-President, W. S. Whitney, Big Rapids.

Sec. and Treas., A. A. Spoor, Big Rapids.

W. T. Dodge, Councilor, 11th District.

O. M., C. O., R. O. COUNTIES.

The O. M., C. O., R. O. Counties Medical Society held its regular meeting at Grayling, October 22, 1903.

This was one of the best meetings we have had since our organization, it differing somewhat as regards program of other meetings.

No papers were read, but instead clinical cases were brought in and diagnoses made and treatments given by a number of physicians assigned to each case, each physician making his diagnosis and mapping out his treatment independent of the others, after which the several diagnoses and treatments were brought before the society and carefully discussed.

After the discussion the regular business of the society was proceeded with.

A. J. Petter, of West Branch, was elected to membership.

The next regular meeting will be held in Frederic on the 16th of December.

After the meeting closed the society was entertained at the home of Dr. Stanley Insley by Mrs. Insley and Mrs. Woodworth.

Clifford C. Curnalia, Sec'y.

WAYNE COUNTY.

Meeting of the section on Gynecology and Obstetrics, October 19, 1903.

W. P. Manton read a paper on "Mischievous Midwifery," which brought forth much discussion. Dr. Manton touched on many points the neglect of which cause disaster, and spoke of the common faults, which are of everyday occurrence. The subject was divided into (1) Pregnancy; (2) Delivery; (3) Puerperium.

1. Pregnancy is a physiological process, but the practitioner is too apt to be indifferent and not give attention to the little details which add to the comfort of the patient and the safety of the confinement. Of great importance is a *monthly* examination of the urine, for only by a knowledge of its condition can we know when danger threatens. From 5 to 10 per cent. of pregnant women have albumen in the urine, though a larger number will show it, unless care be taken to guard against the admixture of vaginal secretions. To determine the significance of the albumen, a microscopic examination for cast is essential. Urea determinations are most important. When the urea is diminished and eclampsia is threatened interference with the pregnancy should not be too long delayed.

Diet, clothing, exercise and rest are of great importance. A properly fitting bandage may re-

lieve pain, when an ovary is pressed upon, or the uterus is too far forward. In cases of hydramnios, one should bring about copious watery evacuations. The continued use of hypnotics is pernicious, the author using them only when absolutely necessary, relying on a regulation of the diet and exercise. Chloreton is to be recommended, when a hypnotic is necessary. Constipation must be guarded against.

2. During the first stage of labor, care must be exercised in order that the parturient may not arrive at the second stage exhausted. Chloral hydrate or morphia may be used to obtain periods of rest. With a normal pelvis, prolongation of the second stage must be due to one of three factors: (1) Rigidity; (2) fœtal deformity; (3) short cord. In either instance, the use of forceps is justifiable, but before they are applied, an exact diagnosis of the position must be made. No more force than can be exercised by the forearm is proper, and the handles should be separated, in the intervals between the intermittent traction. The greater the experience of the accoucheur, the more frequently forceps are applied.

The prevention of laceration by support of the perineum is recommended, but the excellent little operation of episiotomy is too seldom used.

After the head is born, do not pull on the neck, but wait for uterine contractions before attempting to deliver the shoulders. Birth palsies occur from pressure on the neck, over-extension of the arms or pressure in the axilla.

3. The puerperium represents a condition intermediate between health and disease. Attention should be given to cleanliness, the prevention of hemorrhage and absolute rest. It is bad practice to give vaginal douches, either before or after labor, as they wash away the normal bacteriocidal secretions. In case of infection, a curettage followed by *one* douche is indicated.

In opening the discussion, **Dr. Nathan Jenks** laid stress on the importance of frequent urinary examinations, and said that in his experience, uterine contractions cannot be controlled with morphia, chloral hydrate being better.

Dr. McGuire spoke of the difficulty in getting patients to bring specimens of urine. He believes in a thorough cleansing of the vagina, in order that it may be in condition for repair, in case of laceration.

Dr. Chapoton emphasized the importance of determinations of urinary specific gravity, considering them of more importance than the tests for albumen. The latter, however, should be made.

Dr. Sherrill believes in douches, provided they are given early, and finds a vaginal suppository of iodoform before delivery of value.

Dr. Harrison D. Jenks spoke of the use of chloroform and chloral hydrate in the first stage and discussed the length of time one should wait before applying forceps.

Meeting October 22, 1903.

THE ESSENTIAL NATURE OF REFLEX ACTS AND INSTINCTS.

A. W. IVES, DETROIT.

So much that is new and revolutionary in the field of nervous physiology has been discovered by Professor Jacques Loeb, late of the Chicago University, and his school, that with a few ideas of my own I shall endeavor to give it to the society.

They have succeeded in giving nervous physiology a real, a physical basis, by substituting actual experiments and physiologic processes for the confusing terms and logic of the metaphysicians.

The complicated phenomena of nervous activity, as of other activities, depend upon an analysis by which they are resolved into their simplest elementary components. Those of the nervous systems seem to resolve themselves into a class of simple processes called reflexes.

A reflex act has been defined as the immediate unreasoning response to a stimulus.

It is, however, only called reflex when a muscle, or group of muscles, or an organ responds; when the animal as a whole responds, it is called "instinct." There is manifestly, then, no *essential* difference between the two.

Reflex acts, and instincts are so well planned, so purposeful, that there has always been a tendency, avowed or inferred, to give intelligence some part in the role either in devising or carrying out the act.

If it can be shown that these actions are common to animals with and without a nervous system, in fact are found in plant life as well, then it must remove the supposed mysterious action of the ganglionic nerve cell and make it a property common to protoplasm in general.

All, then, that is necessary to reflexion is irritability and conductibility. In low forms of life the tissue stimulated is not only irritable and conductile but contractile as well. No nerves therefore are here necessary. In higher forms of life the part stimulated and the part that acts are so far removed from each other that some connection must be had between the two and the nerves and cells form the only protoplasmic con-

nection. If a lower animal reacts to a stimulus as a rational man would under the same circumstances, it is asserted we are dealing with phenomena of consciousness and intelligence. Consciousness has been ascribed even to the spinal cord, because its reflexes are purposeful.

Loeb says on this subject: "We can dispose of this view by the mere fact that the phenomena of embryological development and of organization in general show a degree of purposefulness which surpasses that of any reflex or instinctive, or conscious act, yet no one considers the act of development to be dependent on consciousness."

In its simplest form the movement of the amœba when stimulated is a reflex act; it responds to a stimulus; in its very broadest sense every action of ours, whether the immediate, unreasoning response to a stimulus, or a delayed well thought out action is reflex in character; it is performed as it is now, because of stimuli, more or less varied and numerous, received in the past.

These acts are called intelligent and the result of reason, as they surely are, but on the other hand there is no ground for removing them from the category of reflex acts.

Everyone now accepts the theory of evolution; in doing so he tacitly admits that the differences between the structure and actions of the lowest and highest forms of animal life, great as these differences now are, are differences of degree and not of kind; also we find even in vegetable life acts which resemble in every essential acts of animals, that is purposeful reflex acts. The tendrils of many climbing plants float about in the breeze until they come in contact with the rod or wire put there for their support, when they immediately commence to bend toward the point of contact or stimulation, continuing to thus bend until they have encircled it several times, thus forming a firm support for the plant; a similar act performed by an animal is called instinct. Now it is explained in both plant and animal as a reflex act caused by a stereotropic stimulus. Certain plants turn their leaves and bend their tips towards the light, a heliotropic reflex. It is forced to grow in that direction. When an animal, as the moth or June-fly, is oriented towards the light it is considered a special instnct, even tho' the animal so flies to its own destruction. It has been shown that in the case of the moth as of the plant it is due to positive heliotropism. There is no more "curiosity" or "love" of the light in the case of the animal than of the plant.

It has been proved that when the light strikes the moth on one side, those muscles which turn the head towards the light become more active than those of the opposite side, impelling the animal towards the light. As soon as the animal has this orientation, being symmetrical, both sides are equally stimulated and it flies, is *forced,* directly at the point of stimulus, and moving rapidly as it does, it gets into the flame before the heat of the flame has time to check it. Nerves to carry the impulses to the muscles are necessary only as forming a protoplasmic conduction between the point of stimulation and muscles which move the animal.

Certain low forms of life with rudimentary nervous systems, respond to stimuli with or without their nerve centers, the difference being that the normal animal responds more quickly and to a slighter stimulus.

The excised iris responds sluggishly to light, proving in both these cases that nervous tissue is not necessary to these reflex acts.

The tentacles of actinians, which can not be said to possess any nervous system, can differentiate between a piece of cray fish meat and a bit of blotting paper soaked in sea water. To us there is no difference in taste; the former it will put into its oral opening, the latter it rejects. A single detached tentacle behaves the same, proving that the reaction is determined by the irritability and contractibility of the tentacles themselves, and that the reaction is hemiotropic. If placed head down in a test tube of sea-water, this little animal soon rights itself, beginning by bending its pedal extremity downward. This is a geotropic or gravitation reaction. The roots of all plants are positively geotropic, the stems negatively so. There is no reason to believe the processes are not the same in both plant and animal, or that even in higher forms of life this tendency to give their bodies a certain orientation in space is not due to essentially the same processes. The star fish when placed on its back soon rights itself. A single detached arm, without any nerve cells, can do the same, proving that this act, as in the actinians, is due to properties inherent to its protoplasm, and not dependent on its nervous system.

An earth worm, whose rudimentary brain has been removed, travels off as though nothing had happened. If the wounded ends of an earth worm whcih has been cut in two be tied with a thread, the movements of the hind end are perfectly co-ordinated with those of the fore end, proving that the impulse causing its crawling movements must be the stretching of its skin, and that the nervous connection is not necessary. Decapitated crickets and bees, after recovery from shock, are able to

walk around, make attempts at flying and are able to pair. When placed on their backs they can right themselves; while bees whose head and body have been cut away perform the stinging act perfectly when their abdomen is stimulated. The fly has received great credit for showing enough intelligence to lay its eggs on meat where they will hatch and feed and not on fat where they would die. A decapitated fly will do the same. It is stimulated chemically to do this by some aroma arising from the decaying meat, chemiotropism, and intelligence plays no part in the act. It does not do this because it *will* but because it *must*.

Another interesting feature concerning instincts is, that certain of them in different animals can be controlled or altered by simple means. Many of the lower marine animals, which naturally are negatively heliotropic, can be forced toward the light, either by lowering slightly the temperature of the sea water in which they live or by increasing its concentration, whereby the cells of the animals lose water. This instinct can be reversed by reversing the conditions. Plant lice can be made to exist in the winged or wingless state. Wings can be caused to grow at any time by lowering the temperature or by letting the plant dry out, changing in each case somewhat the condition of their protoplasm.

Thus, not only can the phenomena of growth and nutrition be controlled, but the instincts also, indicating that there is a common basis for both classes of phenomena, which common basis is the physical and chemical character of their protoplasm.

It is a generally accepted belief that secretion of milk by the mammary glands during and after pregnancy is due to nervous stimuli passing from the uterus to these glands. Goltz severed the spinal cord in the pectoral region of a female dog which afterwards became pregnant. At the proper time the glands in front and behind the place of section secreted milk equally well. The startling experiment has recently been performed of transplanting the mammary gland of a guinea-pig from its normal location to its ear. After it had become well established there the pig became pregnant, when the gland on the ear secreted along with those left in their normal situation. The only possible conclusion to be drawn from this case is that some changes in the blood or lymph must be the cause of this secretion, changes caused by the changes going on in the maternal organism.

Goltz has made a remarkable discovery which seems to confirm the opinion that even in the higher vertebrates, the instincts observed in the female dog at time of giving birth to young, such as the biting off of the navel cord, licking its young, its affection toward them, and increased ferocity towards strangers, belong to the same category. He found that these instincts persist even though the spinal cord long before this time had been severed so high up that no stimuli from the uterus could reach the brain. It is probable that as in the case of secretion from the abnormally placed lacteal gland of the guinea pig, that certain substances are formed during this period, which influence the character of the animal and set free these inherited instincts. All text books and physicians have noted not only the nausea accompanying pregnancy in woman, but also, generally a more or less pronounced change in her temperament and temper, carried at times to the point of temporary insanity. Is it not, in the light of our recent knowledge, probable that all these changes of her body and mind are due to altered composition of her blood, caused by the great amount of nutritious matter taken from and of excrementitious material thrown into her blood from the rapidly growing fœtus? Not only can substances taken into the body from without, such as alcohol, tobacco, morphine, etc., profoundly influence the actions and reactions of human beings, but equally so do abnormal amounts of internal secretions, as the irritability of glycosuria, the idiocy when the secretion of the thyroid gland is lacking; also the profound results, over body and mind, of asexualization if performed early, depriving the blood and organism of the internal secretion from the testes or ovaries, or acromegaly due to impaired function of the pituitary body.

We must agree with Loeb, that it is perhaps not impossible that those mental diseases which are hereditary are in realty, chemical diseases, caused by poisons which are formed in the body and fed to sperm or germ cell before impregnation.

The discussion which followed was most interesting and was participated in by David Inglis, H. A. Wright, J. E. Emerson, and C. W. Hitchcock.

L. J. Hirschman exhibited a specimen of stricture of the rectum, obtained by resection. The patient had suffered for four years and one year ago had been ineffectually operated upon, the resulting scar tissue contributing to the formation of the stricture.

Max Ballin showed a large vegetation on the tricuspid valve found at autopsy in a man, aged 61, on whom a gastro-enterostomy had been done, for the relief of a pyloric obstruction. Death resulted from septic endocarditis.

EYE, EAR, NOSE AND THROAT SECTION, OCT. 26, 1903.

Guy H. McFall read a paper on Rhinoliths. While foreign substances, introduced into the nose are frequently seen, cases of true Rhinoliths, formed *de novo* from secretions and calcareous deposits, are rare. They have usually been found in the middle meatus and often conform to the shape of the nasal passage. While usually small, Scheppegrell, of New Orleans, has reported one weighing 24½ grains, and Roe, of Rochester, one of 40 grains. Usually they can be readily removed.

Dr. McFall's case was that of a girl, aged 19, who complained of being unable to breathe through the nose and of distress at night. No history of ever placing anything in the nose; considerable discharge; no epistaxis. Examination showed granular pharyngitis and the right nares plugged by a dark mass, extending from the floor upward to the middle meatus, and completely filling this space, except above, where there was much discharge. It was firmly attached to the septum and inferior turbinate, and in attempting to remove it, two small pieces were broken off. Under cocaine anesthesia, the mass was carefully separated with a thin blunt probe, and removed. The rhinolith weighed 16½ grains. Since the operation, the patient has complained of pain in the throat, due, the author thinks, to the right side of the nose performing its proper function, to which the throat was unaccustomed.

P. M. Hickey, by means of the projection apparatus, demonstrated the microscopical changes produced by some of the more common diseases of the upper air passages.

General meeting, Oct. 29, 1903.

A. E. Carrier gave a paper on "Inherited Syphilis." In the inherited form of syphilis the disease itself is passed directly to the child from either or both parents. In paternal inheritance, which is the most common, the disease is usually less severe than when from the mother, for time is required for the mother to become leutic, and the child therefore exposed to the poison for a shorter period. On the other hand, when the mother is syphilitic at the time of conception, the child is exposed during the whole period of gestation. The most severe cases are those inherited from both parents.

The activity of the inherited poison diminishes with the age of the disease in the parent or parents, the effect on the child becoming less severe with each subsequent pregnancy, a living child often following repeated abortions, or a healthy offspring several diseased ones. That healthy children are born of syphilitic parents may be explained by either of two suppositions:

(1) The result of treatment; (2) conception at a time when the disease is latent.

It is most important that we have a clear idea of the period of time that the disease can be transmitted, in order that advice may be given in regard to marriage, the question of how early it can be transmitted depends upon the time when it becomes constitutional, it certainly being not later than the first appearance of the chancre, and probably even earlier. The author would establish a limit of five years after the chancre, before marriage is allowed, divided as follows:

(1) A 2 years' continuous treatment with mercury.

(2) A 6 months' treatment with mercury and iodides.

(3) An intermission of 6 months without treatment.

(4) A 1 year intermittent treatment with iodides.

(5) An absolute freedom from any syphilitic manifestation for 1 year.

Frequency. Sixty-five reporters from Michigan give 30 inherited cases out of 245. Allowing 3 abortions for every child born alive and supposing the death rate to be 70 per cent. of the 30, we have 113 deaths out of 245 cases.

Inherited syphilis is just as contagious as the acquired form. In most of the cases the lesions appear within 3 months after birth. The earlier they appear, the more severe is the case. The period of second dentition and of puberty are times when the lesions are liable to appear.

The prophylaxis of inherited syphilis is that of the required form plus measures to prevent conception. When marriage has taken place, a frank confession should be made, exposure avoided, and the wife put under treatment. If conception has occurred, the treatment of the mother should begin at once, care being taken to avoid intestinal or gastric disturbances. If at birth the child shows lesions, begin the treatment at once, if not, wait for evidence of the inheritance. On account of liability of tertiary lesions early in the inherited form, a combination of the iodides is early indicated. The treatment should be an active one at the time of the second dentition and of puberty.

In opening the discussion, **W. R. Chittick** cited cases which he had had under treatment for 8 and 15 years respectively. He believes that the length of time which should elapse before marriage is allowed, is an open question. His own rule is one year after treatment has been discontinued, no symptoms occurring.

A. P. Biddle spoke of the infrequency of inheritance to the third generation, of the importance of remembering that the liquor amnii can convey the infection, and of the facts of Colles' law. It is often difficult to tell whether a babe of 5 or 6 months has acquired or inherited syphilis. Cutaneous lesions coming on after 1 year of age speak for the acquired form, and the lesions of congenital lues are more severe than those of the acquired form. Too much stress should not be laid on "snuffles" as a sign of inherited syphilis.

F. B. Tibbals referred to the frequency of syphilis insontium, saying that recent literature gives about 25 per cent. of cases as innocently acquired. Could this be impressed upon the laity, it might be easier to pass laws putting lues into the list of contagious diseases.

Drs. Flintermann, Eugene Smith, Willis S. Anderson, Duffield, Miner and Stevens also cited cases.

PUBLICATION COMMITTEE.

REPORT OF THE LECTURER, THIRD DISTRICT.

Battle Creek, Mich., Nov. 13, 1903.

EDITOR.—It gives me great pleasure to record the fact that I visited the Eaton County Medical Society, which held its regular quarterly meeting in Grand Ledge, Mich., Thursday, Oct. 29, 1903. I do not think it has ever been my pleasure to visit a society which seemed more to realize the importance of active work, not only as a society, but as individual members, and besides showing their unity of feeling and appreciation of their medical society as an adjunct of the State Society.

In consequence of the absence of the president, Dr. Frank A. Weaver, of Charlotte, was acting president, while Dr. W. H. Rand filled the position of secretary with credit to himself and honor to the society. There was a gathering of about fifteen physicians and five new additions made to the society. Dr. William F. Breakey, president of the Michigan State Medical Society, was present and read a very instructive paper on the different phases of the disease of syphilis, and illustrated the same by some fifty or seventy-five photographs, all of which were exceedingly instructive and much enjoyed by the society.

Dr. W. H. Haughey, of Battle Creek, Mich., read a very instructive paper entitled "A Study of Some Remote Effects of Venereal Diseases, with Suggestions," which evoked considerable discussion. I read a paper on the subject of "Diabetes," which brought forth not only a great deal of discussion, but caused many questions to be asked, showing that the society is not only alive, but progressive. In consequence of the day being consumed by these papers, as well as the routine work of the society, nothing else of importance was transacted and the society adjourned to hold its next meeting in Charlotte.

JAMES H. REED,

Lecturer, 3rd District.

EDITOR:—It is with more than usual interest I report a very delightful meeting of the St. Joseph County Medical Society, which held its monthly meeting in Centerville, Mich., Tuesday, Nov. 10, 1903. There were present at this meeting about one dozen of the members of the society, the meeting being presided over by Dr. Marden Sabine, Dr. Thomas J. Haynes, of Three Rivers, acting as secretary.

On account of the absence of Dr. John R. Williams of White Pigeon, who is secretary of the society, the routine business of the society was done away with, and Dr. W. H. Haughey, councilor of the Third District, and myself were called upon to fill the time. Dr. Haughey gave the society some very instructive lessons along the line of the business of the society and its relation to the Michigan State Medical Society, impressing upon their minds the value of our ably edited MEDICAL JOURNAL, as well as the necessity of promptness in the payment of all dues, and the regular form by which it should be done. As this is so well understood by the majority of the members of the State Medical Society, I simply mention it, hoping that it may do a little good in spurring up members of the County medical societies to keep themselves in line with the State Medical Society. I read a paper on the "Chemistry of Diabetes," which provoked considerable discussion and favorable comments.

I might say that it was the concensus of opinion among the members present that on and after that meeting they would have their regular meeting once in every quarter instead of monthly. After a complimentary vote of thanks to Dr. W. H. Haughey and myself the meeting adjourned.

JAMES H. REED, Lecturer, 3rd District.

REPORT OF THE MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE.

Sault Ste. Marie, Mich., Oct. 1, 1903.

To the Members of the State Board of Registration in Medicine:

I beg to submit my annual report as secretary, covering the year, October, 1902,—October, 1903:

The Board has knowledge, of course, of the amendments to the Medical Act of 1899 passed by the legislature of this year, and which became effective September 17th last. These amendmnts, which were passed on by the Board last October, confer upon the Board the power of raising, controlling and maintaining the standard of preliminary and medical education, and adopt what is known as the Board Universal Examination Test as the only method of obtaining a certificate of registration in the future in this state. The amendments also provide in the discipline clause methods by which licenses may be cancelled for unprofessional and dishonest conduct, the offenses involving moral turpitude, drunkenness, the drug habit, and the inserting of offensive advertisements in newspapers, by publication or otherwise. They also provide adequate punishment for fraud or perjury in connection with the obtaining or attempting to obtain a certificate of registration. Altogether the amendments placed the present Medical Act upon a plane equal at least to any medical act of the better states, and should without question prove effective in elevating not only the standard of medical practice, but also the standard of moral and ethical character in this state.

CLERICAL BOARD WORK.

The amount and character of the office work has been very much increased during the past year, the reason for which is largely chargeable to the clerical work involved in connection with the passing of the amendments through the legislature, and the coming into effect at this time of the amended act with its added scope and responsibilities. The clerical or office work involved in administering properly the new act during the coming year will not only be relatively increased but will require the secretary's almost constant time and attention.

FORMS OR BLANKS.

The preparation of forms or blanks in connection with the administration of the new art will involve a great deal of time and care, and demands technical knowledge and experience in this special work. It has been truthfully stated that proper and appropriate forms are the grand jurors in the correct and exact administration of a medical act, and my experience coincides with this view. Qualification for a certificate from a board demands certain evidence covering fitness and character, and this evidence which is furnished by the board through the media of forms or blanks should be chiefly of a corroborative and of an independent character. As an illustration, I may cite the usual form and method of a certificate of moral and ethical character which usually forms a part of the application blank and which the applicant has had signed by three reputable practitioners. Experience proves that it is a comparatively easy matter to obtain signatures even when the applicant is unworthy if he personally solicits such signatures. A private blank which is endorsed "Confidential," sent to the signers of moral character, and in which is reported not only all the signer knows concerning the applicant, but also what he does not know, tells in many cases an entirely opposite story. In an application blank under the heading "Moral and Ethical Character," the applicant should only fill in the names of physicians to whom the board can, if necessary, refer to in a confidential manner. Blanks covering the personal collegiate history of an applicant should be distinct from the blank filled in and signed by the dean of his college in corroboration of his testimony, (and this latter blank should never reach the applicant's hands), otherwise independent and corroborative testimony cannot be had. The blanks of a large number of the state boards are very defective and it should be the aim of this board to have proper and effective blanks, consistent in every detail with the law.

EXAMINATIONS.

During the past year, owing to the fact that certificates of registration could be obtained upon the qualifications of a diploma from a recognized college, and added to this fact that those practitioners of this state who were unable to obtain re-registration had appeared before the board for examination during the past two or three years of its administration and had either passed or failed, the number of applicants for examination has considerably fallen off. Another cause for this falling off of applicants for examination may be traced to the belief prevalent in Ontario that Michigan had "legislated against the Canadians." While under the amendments it will not be possible in the absence of reciprocity to admit foreign graduates who have obtained their diplomas subsequent to September 16th last to the examinations, the present law does not affect foreign practitioners who graduated from reputable and recognized medical colleges previous to above date. Owing to the amended law which requires all applicants to take the board's examination in order to qualify for license, the number of applicants for examination in the future will be greatly increased, but only moderately so in the next four years, as all students registered in recognized Michigan colleges previous to January first of this year are exempted and can qualify

upon their diploma from such recognized Michigan colleges.

In the past four years out of an average of some five hundred certificates issued annually, two hundred and fifty, or some fifty per cent. of such certificates, have been so issued to graduates of Michigan colleges. Allowing, therefore, for Michigan graduates and taking into account the advanced requirements, and that fully fifty per cent. of those who registered without the state would not have done so if they had been required to take the state board examination, there will probably be not more than one hundred applicants yearly for examination during the next three years.

Concerning the examination itself, it has been the rule in the past to ask ten questions upon each subject listed and to allow two hours in which to write upon each paper. In order to do justice to the examination it requires nearly four days of ten hours actual writing each day. This amount of work and time is altogether too much and is not demanded by other state boards or even by the colleges. Five questions for each paper with an hour and a half in which to write on each subject would be an all-sufficient test and would cut out the night examinations. It would also lessen the burdens of the examiner fifty per cent., which in itself is a necessity in the future. It should be insisted in the future that applicants should file their applications and credentials at least two weeks previous to the examination, otherwise complications will result if a candidate takes an examination and his credentials are insufficient, which cannot be determined off-hand at the examination.

RECIPROCITY.

Since the June meeting last of the board, Maryland and Ohio have notified the board of their recognition of Michigan medical licenses; the former under Qualifications Nos. 1 and 2; the latter under Qualification No. 1. This board is reciprocating at the present time under Section 3, Subdivision 3, of the medical act, with Wisconsin, Indiana and Maryland under Qualifications Nos. 1 and 2, and with Illinois, Ohio, New Jersey and Maine under Qualification No. 1. Negotiations looking to reciprocity with other states, including Kentucky, Vermont and Texas, are pending and undoubtedly will be matured in the near future. A meeting of the American Confederation of Reciprocating, Examining and Licensing Medical Boards, of which this board is a member, will be held in St. Louis, Mo., on the 27th inst. Such well known men as Osler, Green, Billings, Reed, and Musser have stated their intention to be present, and undoubtedly the cause of reciprocity in medical licenses will be greatly influenced by this meeting. As this confederation was originated by the Michigan board and as it has already accomplished practical things in reciprocity, your interest in its future I assume is assured.

ENFORCEMENT OF THE DISCIPLINE CLAUSE.

I have been instructed by the attorney-general as to the method of enforcing Section 6 of the Medical Act known as the "Discipline Clause." Under the law it is necessary to serve personally upon the practitioner who violates this section a formal notice signed by the secretary of the board, and it should appear that the same was by order of the State Board of Registration in Medicine. This notice cites the practitioner in question to appear before the board at some future date and should be a reasonable notice as to time. It will therefore be necessary for the board to pass an order instructing its secretary to proceed against all violators of Section 6 of the act, and for this reason I have not notified offenders to appear before the board at this meeting.

As the enforcement of the discipline clause is an important and technical matter and as there are a great many practitioners holding licenses from this board who could be charged with violation of such section, it would seem advisable for the board to hold a special meeting at Detroit some time in the beginning of the year when all violators of this section could appear before it and their cases be gone into and passed upon. Those practitioners who, previous to September 17th, the date upon which the amendments to the medical act came into effect, advertised in such a manner as to bring them within the provisions of Section 6, still continue such advertisements notwithstanding that it is a plain violation of the law.

I understand that it is their intention to fight the law upon the grounds that the board would have to exercise and possess judicial powers without any appeal from its decision in its consideration and determination of charges under such section, and that such powers granted to the board by the State Legislature is in conflict with the State constitution and is a violation of the federal constitution which forbids a State from granting to a tribunal other than a regularly organized court the final determination of a legal question. It is also contended in objection to this section that the right of appeal is essential to due process of law. It is further contended that a practitioner once engaged in the practice of

medicine and having been licensed in such practice, no board has the power to take this right away, and by doing so that it is in the nature of an attempt to punish him for past offenses. All the above objections have been overruled by the United States Supreme Court in the case of Reitz vs. The Michigan State Board of Registration in Medicine.

Mr. Justice Brewer in his judgment states:

"It is objected in the present case that the Board of Registration has given authority to exercise judicial powers without any appeal from its decision. * * * That, it is contended, is the determination of a legal question which no tribunal other than a regularly organized court can be empowered to decide. The decision of the State supreme court is conclusive that the act does not conflict with the State constitution, and we know of no provision in the federal constitution which forbids a State from granting to a tribunal, whether called a court or a board of registration, the final determination of a legal question. * * * The objection that the statute attempts to confer judicial power on the board is not well founded. Many executive officers, even those who are spoken of as purely ministerial officers, act judicially in the determination of facts in the performance of their judicial duties; and in so doing they do not exercise 'judicial power' as that phrase is commonly used, and as it is used in the organic act in conferring judicial power upon specified courts. * * * The ascertainment and determination of qualifications to practice medicine by a board of competent experts appointed for that purpose is not the exercise of a power which appropriately belongs to the judicial department of the government. * * * Neither is the right of appeal essential to due process of law. In nearly every State are statutes giving in criminal cases of a minor nature, a single trial, without any right of review. * * * It is further insisted that having once engaged in the practice and having been licensed so to do, he had a right to continue in such practice, and that this practice was in the nature of an ex post facto law. The statute does not attempt to punish him for any past offenses, and in the most extreme view can only be considered as requiring continuing evidence of his qualifications as a physician and surgeon."

Under the present medical act an important part of the qualifications demanded from physicians is moral character. I do not believe that violators of Section six will obtain the relief they expect either from the State Supreme Court or the United States Supreme Court in view of their past decisions.

FINANCIAL STATEMENT.

Appended to this report I beg to submit a summary of receipts and disbursements during the period, October 1st, 1902—October 1st, 1903:

RECEIPTS.

To fees received, Oct. 1, 1902, to Oct. 1, 1903..		$5,653 00
To fees rec'd, approved college (492)	$4,919 00	
To fees rec'd, extmination (27)....	272 00	
To fees rec'd, lithograph'd cert (379)	379 00	
To fees rec'd, duplicate cert. (11)....	11.00	
To fees rec'd, reciprocity (7).....	70 00	
To fees rec'd, re-registration (2)....	2 00	$5,653 00

DISBURSEMENTS.

To disbursements, Oct. 1, 1902, to Oct. 1, 1903..		$4,235 14
By printing and stationery.....	$ 385 13	
By postage	173 25	
By express, telegraph and telephone..	44 35	
By office furniture	92 52	
By rent	150 00	
By porter and charwoman.....	45 75	
By light	20 75	
By Secretary's salary	1,800 00	
By traveling expenses of members...	670 25	
By clerk hire	799 95	
By miscellaneous	32 19	
Total	$4,214 14	
By returned fees	21 00	$4,235 14

RECAPITULATION.

To receipts, Oct. 1, 1902 to Oct. 1, 1903.....		$5,653 00
To disbursements, Oct. 1, 1902, to Oct. 1, 1903	$4,214 00	
To returned fees, Oct. 1, 1902, to Oct. 1, 1903	21 00	$4,235 14
Balance October 1, 1903.....		1,417 86
Balance October 1, 1902.....		3,075 68
Total balance October 1, 1903.....		$4,493 54
Balance October 1, 1903.....	$4,493 54	
Balance October 1, 1902.....	3,075 68	
Increase of receipts over disbursements, 1902-3	$1,417 86	
		$7,300 00

You will note that the balance October 1, 1901, was $2,256.59; October 1, 1902, $3,075.68, and October 1, 1903, $4,493.54, leaving a balance of $1,417.86 in excess of last year. Disbursements, 1901-1902, $3,556.91; disbursements, 1902-3, $4,214.14, allowing for increase in secretary's salary, an increase over former years of only $57.23.

B. D. HARISON, Secretary.

RESOLUTIONS COVERING THE ADMINISTRATION OF SECTION 3, SUBDIVISION FIRST (E) OF ACT 353, LAWS OF 1903, AMENDING ACT 237, LAWS OF 1899, ADOPTED OCTOBER 14TH, 1903.

Preliminary Examination Authorized by the Board for Entrance to Recognized Medical Schools.

RESOLVED: That in harmony with and as provided for in Section 3, Subdivision First (e),

lines 14-17 inclusive, this board does hereby establish a Board of Preliminary Examiners having a membership of four members who must be reputable and qualified persons, citizens of this state, and who shall serve upon such board until their successors are appointed. This Board of Preliminary Examiners is hereby authorized by this board to conduct examinations for applicants for registration as students in approved and designated medical colleges recognized by this board, by and in accordance with the regulations of aforesaid board governing such preliminary examinations.

Regulations Governing the Conduct of Examinations by the Board of Preliminary Examiners.

(1). The examinations shall be directly in charge of one of the members of the Board of Preliminary Examiners who shall arrange and be responsible for such examination in all of its details.

(2). Examinations shall be held simultaneously in the state, at Detroit, Bay City, Grand Rapids, and Hillsdale, beginning on the second Tuesday of September of each year, and shall be conducted in writing supplemented with an oral examination if deemed necessary.

(3). The subjects for the examination shall be apportioned among the members of the board for the preparation of questions in the same. All answers to papers in any subject shall be returned for reading and grading to the member who set the questions in each subject. Members will report their findings to the Chairman of the Board of Preliminary Examiners to whom all fees collected shall be paid by the examiner collecting same, and the Chairman shall apportion such fees equally among the members of the Board of Preliminary Examiners.

(4). The scope of the examination shall harmonize with and cover the minimum standard of preliminary education adopted by the board under Section 3, Subdivision First (e), of the Amended Medical Act.

(5). A general average of 75% shall be required of all applicants for examination.

(6). Applicants failing to obtain a general average of 75% and falling below 55% in but two subjects may be conditioned in such subjects.

(7). Conditions must be removed by examination before the beginning of the second year in a medical college, otherwise the applicant will be considered as having failed in the entire examination.

(8). The fee of five dollars is authorized to be collected by the member of the board in charge of the examination from each applicant, payable previous to each and every examination for the purpose of the remuneration of those members of the Board of Preliminary Examiners conducting the examination. An additional fee, however, will not be required from applicants removing conditions.

(9). The Board of Preliminary Examiners, through its chairman, shall issue to applicants who successfully pass such examination a certificate, the form of which shall be furnished by this board; such certificate when endorsed by the secretary of the board to be received and recognized by this board as equivalent to a diploma or certificate from a recognized high school, academy, normal school, state board of education, state board of medical examiners, college or university having a classical course.

(10). Medical students who have provisionally registered in medical colleges of this state during the college session 1903-4, and subsequent to September 16th, 1903, and who cannot meet the preliminary requirements of education demanded by Section 3, Subdivision First (e) of the Amended Medical Act, will be allowed until the beginning of the second year in a medical college in which to obtain such preliminary requirements.

RESOLVED: That the following minimum standard of preliminary education be adopted as required under Section 3, Subdivision First (e), Act 353, Laws of 1903, Amending Act 237, Laws of 1899; and no diploma or certificate issued by a high school, academy, college or university or other institution, or by a board of examiners, shall be recognized by this board subsequent to September 16th, 1903, unless, in the opinion of the board, such diploma or certificate fulfill the minimum standard of preliminary education hereby established by the board, to wit:

Minimum Standard of Preliminary Education as Required for Entrance to Medical Colleges.

GROUP I. ENGLISH LANGUAGE.

(a) English Grammar.

(b) Rhetoric and Composition.

GROUP II. HISTORY.

(a) History of the United States, as presented in McLaughlin's History of the American Nation, Johnston's History of the United States, or equivalent text.

(b) General History, as presented in Myer's General History, or equivalent text. Greek and Roman History or English History will be accepted as a substitute for General History.

GROUP III. MATHEMATICS.

(a) Algebra—Fundamental rules, Fractions, Simple Equations, Involution and Evolution, and Calculus of Radicals and Quadratic Equations, as given in Olney's Complete School Algebra, or Beman and Smith's Elements of Algebra, or some equivalent text.

(b) Geometry—Plane Geometry as given in Beman and Smith's Plane and Solid Geometry or equivalent text.

(c) Plane Trigonometry, as given in Wentworth's Trigonometry, or equivalent text.

GROUP IV. NATURAL SCIENCES.

(a) Physics, as presented in Carhart and Chute's Elements of Physics, or an equivalent text.

(b) General Biology, or Botany and Zoology, as presented in Sedwick and Wilson's General Biology, or Spaulding's Introduction to Botany and Kingley's Comparative Zoology.

(c) Chemistry, as presented in Freer's Elementary Chemistry, or an equivalent amount of work in Remsen's Introduction to the Study of Chemistry.

GROUP V. MODERN LANGUAGES.

(a) German or French—The applicant must be able to read French or German. This requires for one not born to one of these languages, two years of school work.

GROUP VI. CLASSICS.

(a) Latin Grammar.
(b) Prose Composition.
(c) Reading—Four books of Cæsar's Gallic War.
(d) Greek Grammar.
(e) Prose Composition.
(f) Xenophon or Homer.

Academic Work and Examination (15 Units). Required (9 Units).

English, 3 units.
Mathematics (Algebra and Geometry), 3 units.
Latin, 2 units.
Physics, 1 unit.

Optional (6 Units).

Greek, 2 units.
French, 2 units.
German, 2 units.
English Literature, 1 unit.
History 2 units.
Chemistry, 1 unit.
Botany, 1 unit.
Zoology, 1 unit.
Biology (half a year each of Botany and Zoology), 1 unit.
Trigonometry, Plane, 1 unit.

NOTE.—Fifteen units are required. A unit equals one subject pursued for not less than four periods a week throughout a school year. Since biology is equivalent to botany and zoology it must not be counted if either or both of these subjects be counted.

RESOLVED: That the following credentials be recognized by the board as fulfilling the requirements of Section 3, Subdivision First (e) of the Amended Medical Act, for entrance to an approved and designated medical college subsequent to September 16th, 1903, provided such credentials are in harmony with and equal to the minimum standard of preliminary education as determined by this board, and that the secretary of this board shall, upon request, issue and sign a certificate of endorsement of preliminary education, provided the diploma or certificate fulfills and equals the requirements of aforesaid section and subdivision and the regulations of this board governing same:

(a) A diploma from a recognized and reputable literary college having a classical course granting the degree of Bachelor of Arts, or equivalent degree.

(The degrees which are deemed equivalent to those of Bachelor of Arts are Bachelor of Philosophy, Bachelor of Science, Doctor of Science, Bachelor of Letters, Bachelor of Classics, Civil Engineer, Doctor of Philosophy, Master of Science, Master of Arts, Doctor of Letters.)

(b) A diploma from a recognized and reputable high school, normal school or academy, having a classical course, issued after four years of study.

(c) A teacher's permanent or life certificate granted upon examination by the State Board of Education.

(d) A medical student's certificate issued upon examination by any recognized State Board of Medical Examiners.

(e) A student's certificate of examination for admission to the freshman class of a recognized literary or scientific college.

(f) A certificate issued by the Board of Preliminary Examiners in Michigan of having passed the board's minimum standard of preliminary education.

RESOLVED: That the following minimum standard of medical education be adopted as required under Section 3, Subdivision First (e), Act 353, Laws of 1903, Amending Act 237, Laws of 1899, and no medical college or other institution shall be approved and designated by the board subse-

quent to September 17, 1903, nor shall a medical diploma or certificate be recognized unless in the opinion of the board it fulfills the minimum standard of medical education hereby established by said board, to wit:

Minimum Standard of Medical Education as Required for Degree of M. B. or M. D.

SUBJECTS.	No. Hrs. Lectures Entire Course.	No. Hrs. Labo'tory Entire Course.	No. Hrs. Clinics Entire Course.
Anatomy	160	...	...
Anatomy, pathological	...	240	...
Physiology	180	80	...
Chemistry and toxicology	150	200	...
Pathology	100	120	...
Histology and embryology	100	100	...
Practice of medicine	180	...	360
Surgery	150	...	360
Obstetrics	100	...	...
Gynæcology	100	...	120
Eye, ear, nose and throat	100	...	160
Therapeutics, Materia Medica	180	...	...
Hygiene and public health	30	...	...
Bacteriology	50	180	...
Electro-Therapeutics	30	...	...
Dermatology	30	...	30
Medical jurisprudence	30	...	...
Mental and nervous diseases	60	...	60
Genito-urinary and syphilis	45	...	45
Pediatrics	60	...	80
Physical diagnosis	60	...	60
Pharmacology	30	24	...
Clinical microscopy	...	72	...
Dietetics	24	...	...

Medical course to cover a four years' graded course of seven months in each calendar year, the aggregate of which amounts to at least 120 weeks of at least thirty-six hours each, and at least forty-three months must have elapsed between the student's beginning his first course of lectures and the date of his graduation.

Other Requirements (as a Part of Above Standard) Demanded of Medical Colleges Approved and Designated by the Board.

MATRICULATION.

(1). The requirements for matriculation as set forth in Section 3, Subdivision First (e) of the Amended Medical Act of 1903, shall have been exacted since September 17, 1903.

FACULTY, EQUIPMENT, HOSPITAL AND CLINICAL FACILITIES.

(2). The possession of adequate equipment for teaching medicine and surgery in all of its branches, including modern and up-to-date laboratories, microscopes, and other necessary apparatus found in medical colleges of reputation and standing, ample clinical and hospital facilities and an active and competent faculty, as determined by this board.

LECTURES AND COURSES.

(3) A required attendance upon 80% of each of four graded courses of instruction of not less than thirty weeks, of at least thirty-six hours in each week, including holidays, in four separate years.

PERCENTAGE.

(4). An average grade of 75% on examination as a condition of graduation.

(5). The fulfilling of all published promises, requirements and claims respecting advantages to students and courses of instruction, and no college will be recognized, or if already recognized will it be continued in such recognition, which publishes in its annual announcement or catalogue or otherwise, any misrepresentations regarding the courses of the college or the facilities for instruction, or the number of students matriculated or graduated.

ADVANCED STANDING.

(6). A student or graduate in any medical college approved and designated by the board under Group I., or in any medical college, not so approved and designated, under Group IV., but whose medical course is recognized for advanced standing in accepted colleges, and who has since September 17, 1903, complied with the requirements of matriculation under clause First of Section Three and who possesses a certificate of attendance and completion of any college year in accordance with the minimum standard of medical education adopted by the board, may enter without re-examination the college year immediately following that previously completed in any recognized medical college.

NOTE.—In order to obtain recognition and listing by the board, it is necessary that colleges should report in detail to the Chairman of the Committee on Standard and Colleges, Dr. H. B. Landon, Bay City, Mich., upon authorized forms obtained from the Secretary, their requirements for admission, and the lecture and other courses throughout the entire four years, and such other information as is required by the forms. The absence of well-known and reputable colleges from the lists is probably explained by the neglect of such colleges to report their standing as required.

APPROVED AND DESIGNATED COLLEGES.

(a) RESOLVED: That the following medical colleges be approved and designated under and in harmony with Section 3, Subdivision First (e), Act 353, Laws of 1903, Amending Act 237, Laws of 1899, lines 4-11, inclusive, and lines 32-37, inclusive, which read as follows:

"Provided, however, that such applicant for examination shall have a diploma from a legally incorporated, regularly established and reputable college of medicine within the states, territories,

districts and provinces of the United States, or within any foreign nation (provided such foreign nation accord a like privilege to graduates of approved medical colleges of this state), having at least a four years' course of seven months in each calendar year, as shall be approved and designated by the Board of Registration in Medicine."

"The Board of Registration in Medicine shall, from time to time, adopt and publish a minimum standard of medical education, and no medical college shall be approved and designated by said board under this subdivision one, of section three, unless, in the opinion of the board, it conforms with such standard."

GROUP I.

Hahnemann Medical College of the Pacific, San Francisco, Cal.

Medical Department, College of Physicians and Surgeons, San Francisco, Cal.

Medical Department, University of Denver, Denver, Colorado.

Medical Department, Gross Medical College, Rocky Mountain University, Denver.

Medical Department, Yale University, New Haven, Conn.

Medical Department, Columbian University, Washington, D. C.

American Medical Missionary College, Chicago, Illinois.

Bennett College of Eclectic Medicine and Surgery, Chicago, Ill.

Chicago Homoeopathic Medical College, Chicago, Illinois.

Chicago Physio-Medical College, Chicago, merged in College of Medicine and Surgery, Chicago.

Hannemann Medical College and Hospital, Chicago, Illinois.

College Physicians and Surgeons, Chicago, Illinois.

Illinois Medical College, Chicago, Illinois.

Northwestern University Medical School, Chicago, Illinois.

Rush Medical College, Chicago, Illinois.

Medical College of Indiana, Indianapolis, Ind.

State University of Iowa, Medical Department, Iowa City, Iowa.

State University of Iowa, Homoeopathic Medical Department, Iowa City, Iowa.

Johns Hopkins University, Medical Department, Baltimore, Maryland.

College of Physicians and Surgeons, Baltimore, Maryland.

Woman's Medical College of Baltimore, Maryland.

Medical School, Harvard University, Boston, Mass.

University of Michigan, Department Medicine and Surgery, Ann Arbor.

Kentucky School of Medicine, Louisville, Ky.

Detroit College of Medicine, Detroit, Mich.

University of Michigan (Homoeopathic Med. Coll.), Ann Arbor.

Detroit Homoeopathic Medical College, Detroit.

University of Minnesota, College of Medicine and Surgery, Minneapolis.

University of Minnesota, College of Medicine and Surgery (Homoeopathic Department, Minneapolis.

Medical Department, Hamline University, Minneapolis, Minnesota.

Barnes Medical College, St. Louis, Mo.

Homoeopathic Medical College of Missouri, St. Louis, Mo.

University of Nebraska, College of Medicine, Lincoln, Neb.

Albany Medical College, Albany, N. Y.

College of Physicians and Surgeons, Columbia University, New York.

Eclectic Medical College, City of New York, N. Y.

Medical Department, Buffalo University, Buffalo, N. Y.

Medical Department, Cornell University, New York, N. Y.

University and Bellevue Hospital Medical College, New York, N. Y.

Medical College of Ohio, Cincinnati, Ohio.

Cleveland Homoeopathic Medical College, Cleveland, O.

Eclectic Medical Institute, Cincinnati, Ohio.

Pulte Medical College, Cincinnati, O.

Hahnemann Medical College and Hospital, Philadelphia, Pa.

Jefferson Medical College, Philadelphia, Pa.

Medico-Chirurgical College, Philadelphia, Pa.

Western Pensylvania Medical College, Pittsburg, Pa.

Medical Department, Texas University, Fort Worth, Texas.

Medical College of Virginia, Richmond, Va.

Wisconsin College of Physicians and Surgeons, Milwaukee, Wis.

(b) RESOLVED: That the following medical colleges be approved under and in harmony with Section 3, Subdivision First (e), Act 353, Laws of 1903, Amending Act 237, Laws of 1899, lines 24-27, inclusive, which read as follows:

"And provided also, that the requirement of medical education shall not apply to those grad-

uates of legally organized and reputable medical colleges approved of by said board who had graduated from such colleges previous to the date of the passage of this act."

GROUP II.

Hahnemann Hospital College of the Pacific, San Francisco, California.

College of Medicine, University of Southern California, Los Angeles, Cal.

Medical Department, College of Physicians and Surgeons, San Francisco, Cal.

University of Denver, Medical Department, Denver, Colorado, and Gross Medical College, Rocky Mountain University, Denver, Colorado, merged.

Medical Department, Yale University, New Haven, Connecticut.

Medical Department, Columbia University, Washington, D. C.

American College of Medicine and Surgery, Chicago.

Medical Department, Howard University, Washington, D. C.

American Medical Missionary College, Chicago, Illinois.

Bennett College of Eclectic Medicine and Surgery, Chicago, Ill.

Chicago Homoeopathic Medical College, Chicago, Ill.

Chicago Physio-Medical College, Chicago, merged in College of Medicine and Surgery, Chicago.

College of Physicians and Surgeons, Chicago.

Hahnemann Medical College and Hospital, Chicago.

Harvey Medical College, Chicago.

Hering Medical College, Chicago (Dunham Med. Coll., Chicago).

Illinois Medical College, Chicago, Ill.

Northwestern University Medical College, Chicago.

Northwestern University Medical School, Chicago, Woman's Med. Coll., Chicago.

Rush Medical College, Chicago, Illinois.

Central College of Physicians and Surgeons, Indianapolis, Ind.

Medical College of Indiana, Indianapolis, Ind.

State University of Iowa, Medical Department, Iowa City, Iowa.

State University of Iowa, Iowa City, Iowa (Homoeopathic Medical Department).

Kentucky School of Medicine, Louisville, Ky.

Louisville Medical College, Louisville, Ky.

Medical Department, Louisville University, Louisville, Ky.

Johns Hopkins University, Medical Department, Baltimore, Maryland.

College of Physicians and Surgeons, Baltimore, Maryland.

Southern Homoeopathic Medical College, Baltimore, Maryland.

Woman's Medical College of Baltimore, Maryland.

Medical School, Harvard University, Boston, Mass.

University of Michigan, Medical Department, Ann Arbor, Mich.

Detroit College of Medicine, Detroit, Mich.

University of Michigan (Homoeo. Med. Coll.), Ann Arbor, Michigan.

Michigan College of Medicine and Surgery, Detroit, Michigan.

Saginaw Valley Medical College, Saginaw, Michigan.

Detroit Homoeo. Medical College, Detroit.

College of Medicine and Surgery, University of Minnesota, Minneapolis.

Medical Department, Hamlin University, Minneapolis, Minn.

College of Medicine and Surgery, University of Minnesota, (Homoeopathic Department).

American Medical College of St. Louis, Mo.

Barnes Medical College of St. Louis, Mo.

Homoeopathic Medical College of Missouri, St. Louis, Mo.

Medico-Chirurgical College, Kansas City, Mo.

University of Nebraska, College of Medicine, Lincoln, Neb.

Lincoln Medical College (Eclectic), Lincoln, Neb.

Albany Medical College, Albany, N. Y.

College of Physicians and Surgeons, Columbia University, New York.

Eclectic Medical College, City of New York, N. Y.

Medical Department, Buffalo Medical College, Buffalo, N. Y.

Medical Department, Cornell University, New York, N. Y.

University and Bellevue Hospital Medical College, New York, N. Y.

United States Medical College, New York, N. Y. (Extinct).

Cleveland Homoeopathic Medical College, Cleveland, O.

Eclectic Medical Institute, Cincinnati, O.

Medical College of Ohio, University of Cincinnati, Ohio.

Miami Medical College, Cincinnati, Ohio.

Pulte Medical College, Cincinnati, Ohio.

Starling Medical College, Columbus, Ohio.

Toledo Medical College, Toledo, Ohio.

Medical Department, Oregon University, Portland, Oregon.

Hahnemann Medical College and Hospital, Philadelphia, Pa.

Jefferson Medical College, Philadelphia, Pa.

Medico-Chirurgical College, Philadelphia, Pa.

Western Pennsylvania Medical College, Pittsburg, Pa.

Medical Department, Nashville University, Nashville, Tenn.

Medical Department, Tennessee University, Nashville, Tenn.

University of Western Tennessee, Jackson, Tenn.

Medical Department, Texas University, Galveston, Texas.

Medical College of Virginia, Richmond, Va.

Halifax Medical School, Halifax, N. S.

Dalhousie University, Medical Department, Halifax, N. S.

Toronto University, Medical Department, Toronto, Ont. (Trinity University, Toronto. merged.

Queens University, Medical Department, Kingston, Ont.

(c) RESOLVED: That the following medical colleges of Michigan be approved under and in harmony with Section 3, Subdivision First (e), Act 353, Laws of 1903, Amending Act 237, Laws of 1899 lines 27-32, inclusive, which read as follows:

"And students complying with the other provisions of this section who, on January first of the present year (1903) were regularly registered as students of legally organized and reputable medical colleges of this state approved of by said board, may obtain a certificate of registration as graduates of such colleges and without examination by the board upon payment of a fee of ten dollars."

GROUP III.

University of Michigan, Dept. Medicine and Surgery, Ann Arbor.

University of Michigan, Homœopathic Medical College, Ann Arbor.

Detroit College of Medicine, Detroit.

Detroit Homœopathic Medical College, Detroit.

Colleges not Approved and Designated Under Group I. but Whose Medical Courses are Recognized for Advanced Standing in Recognized Colleges Under Group I.

(d) RESOLVED: That the courses of the following medical colleges not approved and designated under Group I. by the board be recognized for Advanced Standing in Approved Medical Colleges:

GROUP IV.

Medical Department, Howard University, Washington, D. C.

Harvey Medical College, Chicago.

Hering Medical College, Chicago, (Dunham Medical College).

College of Medicine and Surgery, Chicago, Ill.

Central College of Physicians and Surgeons, Indianapolis, Ind.

Louisville Medical College, Louisville, Ky.

Medical Department, Louisville University, Kentucky.

Southern Homoeopathic Medical College, Baltimore, Maryland.

Saginaw Valley Medical College, Saginaw, Michigan (Merged).

Michigan College of Medicine and Surgery, Detroit, Michigan.

American Medical College, St. Louis, Mo.

Medico-Chirurgical College, Kansas City, Mo.

Lincoln Medical College (Eclectic), Lincoln, Nebraska.

Miami Medical College, Cincinnati, Ohio.

Starling Medical College, Columbus, Ohio.

Toledo Medical College, Toledo, Ohio.

Medical Department, Oregon University, Portland, Ore.

Medical Department, Nashville University, Nashville, Tennessee.

Medical Department, Tennessee University, Nashville, Tennessee.

University of Western Tennessee, Jackson, Tenn.

Halifax Medical School, Halifax, Nova Scotia.

Dalhousie University, Medical Department, Halifax, N. S.

Medical Faculty, Toronto University, Toronto, Ont.

Medical Faculty, Trinity University, Toronto, Ont. (Extinct).

Medical Faculty, Queens University, Kingston, Ont.

Amendments to Reciprocity Resolutions Adopted by the Board June 11, 1902, and Amended June 10th, 1903.

RESOLVED: That the standard under Qualification No. 1 of a recognized medical diploma be changed under (e) to read as follows:

(e) "That under Qualification No. 1 a recognized medical diploma shall be of the following minimum standard," viz.: A certificate of graduation from an approved and reputable high

school, academy, normal school, state board of education, state board of medical examiners, college or university, having a classical course and having the minimum standard of preliminary education adopted under Section 3, Subdivision First (e) of the Amended Medical Act of 1903, and a medical diploma from an approved and designated medical college listed under Group I, having the minimum standard of medical education adopted under Section 3, Subdivision First (3) of the Amended Medical Act of 1903.

RESOLVED: That the list of medical colleges recognized under Qualification No. II., June 10th, 1903, be revoked and that the following medical colleges be approved and designated in connection with Qualification No. 2, viz.: medical colleges listed under Groups I. and II.

Adopted October 14th, 1903.

J. H. COWELL, President.

B. D. HARISON, Secretary.

COMMITTEES, 1903-5.

AUDITING.

Griswold, Maynard, Landon.

STANDARD AND COLLEGES.

Landon, LeSeure, Kost and Bell.

EXAMINATIONS.

Ranney, Maynard, LeSeure, Kost.

LEGISLATION AND LITIGATION.

LeSeure, Sawyer, Ranney, Bell.

REGISTRATION.

Bell, Kost, Griswold, LeSeure.

SECTION 6—Sawyer, LeSeure, Maynard.

The President and Secretary shall be members, ex-officio, of all committees.

EXAMINERS FOR 1903-5.

Obstetrics and Bacteriology—H. B. Landon, M. D., Bay City.

Materia Medica and Therapeutics and Practice (Physio-Medical) and Hygiene—John Kost, M. D., Adrian.

Minor Surgery and Surgical Pathology—B. D. Harison, M. D., Sault Ste. Marie.

Practice of Medicine, Pathology and Materia Medica and Therapeutics—G. E. Ranney, M. D. Lansing.

Materia Medica and Therapeutics and Practice (Eclectic) and Medical Jurisprudence—William Bell, M. D., Belding.

Surgery and Histology—Oscar LeSeure, M. D., Detroit.

Gynæcology, Chemistry and Diseases of the Eye, Ear, Nose and Throat—W. H. Sawyer, M. D., Hillsdale.

Mental and Nervous Diseases and Toxicology—J. B. Griswold, M. D., Grand Rapids.

Anatomy, Descriptive and Surgical—H. C. Maynard, M. D., Hartford.

Physiology, Materia Medica and Therapeutics, and Practice (Homoeopathic)—J. H. Cowell, M. D., Saginaw.

CHANGE IN MEMBERSHIP.

Oct. 15th to Nov. 15th.

NEW MEMBERS.

D. E. Bagshaw, Saginaw.
W. L. Barnes, Ionia.
G. L. Bond, Carson City.
J. N. Day, Lake Odessa.
Emma Decker, Mt. Clemens.
E. G. Folsom, Mt. Clemens.
J. W. Freeman, Saginaw.
J. Gould, Fenton.
W. A. Griffith, Kinderhook.
Roy D. Hensel, 374 Bowen Ave., Detroit.
H. H. Hills, Flint.
A. W. Hixon, Grand Ledge.
A. G. Holbrook, Coldwater.
A. R. Ingram, Fenton.
C. S. Kenny, Norcatur, Kansas.
E. D. Lewis, Otisville.
D. H. Long, Eaton Rapids.
C. B.Macartney, Flint.
S. C. Moore, Cadillac.
A. J. Pettis, West Branch.
P. H. Quick, Olivet.
T. S. Ryan, Saginaw.
E. A. Schilz, Delta.
P. L. Thompson, Grand Ledge.
F. L. Tupper, Flint.
W. E. Wilson, Grand Ledge.

CHANGE OF ADDRESS.

J. R. Arneill to Denver, Colo.
C. E. Bailey to Ionia, Mich.
C. J. Bulhand to Sunfield, Mich.
J. Bursma to Altona, Mich.
J. N. MacLean to Saginaw, Mich.
C. B. Pearson to Grand Blanc, Mich.
B. P. Pierce to Mackinaw City, Mich.

LEFT STATE.

J. E. Cunningham.
M. A. Flemming.
A. J. Thomas.

PERSONAL MENTION.

Mr. and Mrs. Hugh J. Gray announce the marriage of their sister, Mabel C., to Dr. Louis Schuyler Joy, on November 5th, 1903, at Grand Rapids. At home, Marshall, Mich.

HEALTH IN MICHIGAN DURING OCTOBER, 1903.

Reports to the State Board of Health, by representative physicians in active general practice, in different parts of the State, show the diseases which caused the most sickness in Michigan, during the month of October (4 weeks ending October 31), 1903, as follows:

Number of reports received for this month, 332.	Per cent of reports stating presence of disease.		
Diseases arranged in order of greatest prevalence in this month.	Oct., 1903.	Sept., 1903.	Average for Oct., 10 years, 1893—1902
Rheumatism	60	57	62
Neuralgia	53	44	56
Bronchitis	46	42	49
Diarrhea	44	57	51
Tonsilitis	42	39	42
Typhoid fever { Enteric	23	22	24
Typhoid fever { Typho-malarial	4	2	6
Consumption, pulmonary	26	23	25
Influenza	25	17	30
Inflammation of kidney	19	17	17
Scarlet fever	15	11	10
Dysentery	14	22	19
Intermittent fever	14	12	22
Cholera morbus	13	23	15
Pleuritis	12	16	11
Pneumonia	10	6	10
Inflammation of Bowels	9	13	11
Diphtheria	9	5	8
Cholera infantum	8	17	12
Remittent fever	7	7	18
Erysipelas	5	5	9
Whooping cough	2	6	5
Meningitis	1	1	1
Measles	1	.2	2
Smallpox	1	6	1
Puerperal fever	.9	1	2
Membranous croup	.9	.2	1
Inflamation of brain	.6	1	2

At the state capitol for the month of October, 1903, compared with the preceding month, the tri-daily observations made by the State Board of Health show the prevailing direction of the wind to have been the same (southwest), the velocity 1.1 miles per hour greater, the average temperature 10.79 degrees lower, the average daily range of temperature .8 of a degree less, the average daily range of atmospheric pressure .66 of an inch greater, the precipitation 1.93 inches less, and the absolute and relative humidity and the day and night ozone all less.

For the month of October, 1903, compared with the preceding month, neuralgia, influenza, scarlet fever, pneumonia, diphtheria and measles were more prevalent; and diarrhœa, dysentery, cholera morbus, pleuritis, inflammation of bowels, cholera infantum, whooping-cough and smallpox were less prevalent.

At the state capitol for the month of October, 1903, compared with the average for October in the ten years, 1893-1902, the prevailing direction of the wind was the same (southwest), the velocity .3 of a mile per hour less, the average temperature .17 of a degree higher, the average daily range of temperature .19 of a degree less, the average daily range of atmospheric pressure .015 of an inch greater, the precipitation .73 of an inch less, the absolute humidity more, the relative humidity and the day and night ozone all less, and the depth of water in the observation well 20 inches more.

For the month of October, 1903, compared with the average for October in the 10 years, 1893-1902, scarlet fever was more than usually prevalent; and influenza, dysentery, intermittent fever, cholera infantum, remittent fever, erysipelas, whooping-cough and measles were less than usually prevalent.

The most dangerous communicable diseases.

Including reports by regular observers and others, *meningitis* was reported present in Michigan during the month of October, 1903, at 8 places; *whooping-cough* at 19 places; *measles* at 21 places; *smallpox* at 42 places; *diphtheria* at 83 places; *scarlet fever* at 111 places; *typhoid fever* at 185 places; and *consumption* at 242 places.

Reports from all sources show *meningitis* reported at the same number of places; *whooping-cough* at 13 places less; *measles* at 3 places less; *smallpox* at 15 places less; *diphtheria* at 10 places more; *scarlet fever* at 8 places more; *typhoid fever* at 3 places more; and *consumption* at 9 places more, when compared with the preceding month.

HENRY B. BAKER,
Lansing, Mich., November 5, 1903. *Sec'y.*

MORTALITY IN MICHIGAN DURING OCTOBER, 1903.

There were 2,624 deaths reported to the Department of State for the month of October, or 98 less than the number returned for the preceding month. The death rate was 12.5 per 1,000 population.

Deaths by ages were as follows: Under 1 year, 489; 1 to 4 years, inclusive, 185; 65 years and over, 766.

There was a considerable decrease in deaths of infants and children, and a slight increase in deaths of elderly persons, as compared with September.

Important causes of death were as follows: Tuberculosis of the lungs, 190; other forms of tuberculosis, 35; typhoid fever, 90; diphtheria and cough, 16; pneumonia, 143; diarrhœa, 3; whooping-cough, 16; pneumonia, 143; diarrhœa and enteritis, under 2 years, 173; cancer, 128; accidents and violence, 202.

There was one death from smallpox which occurred in the city of Hillsdale. Somewhat increased mortality was shown from tuberculosis, diphtheria and croup, and pneumonia. Typhoid fever caused 90 deaths as compared with 74 for the preceding month. There was a very large decrease in deaths reported from diarrhœal diseases of children, and also a considerable diminution in the number of deaths from cancer.

DEPARTMENT OF HEALTH.

CITY OF PORT HURON, MICH.

REPORT OF VITAL STATISTICS

for the Month of October, 1903.

CAUSES OF DEATH

Apoplexy	1
Paralysis	1
Abcess of Brain	1
Convulsions	2
Hemiplegia	1
Bronco-pneumonia	1
Membraneous Croup	1
Organic Heart Disease	1
Cardiac Insufficiency	1
Mitral and Aortic Obstruction	1
Exhaustion	2
Typhoid Fever	2
Purpura Hemorrhagica	1
Chr. Rheumatism	1
Gangrene	1
Cancer of Uterus	2
Carcinoma of Breast	1
General Debility	1
Shock from burn	1
Injury (from being struck by R. R. car)	1
Old Age	1
Still Birth	3

CONTAGIOUS DISEASES REPORTED DURING MONTH

Typhoid Fever	3
Consumption	0
Measles	0
Diphtheria	5
Scarlet Fever	6
Smallpox	0
Whooping Cough	0
Chicken Pox	0

CONTAGIOUS DISEASES REMAINING ON HAND AT END OF MONTH

Typhoid Fever	1
Consumption	3
Diphtheria	1
Scarlet Fever	3
Measles	0
Smallpox	0
Chicken Pox	0

A. H. COTE, M. D., Health Officer.

Communications.

MEETING OF THE AMERICAN CONFEDERATION OF RECIPROCATING, EXAMINING AND LICENSING MEDICAL BOARDS.

SAULT STE. MARIE, Mich., Nov. 9, 1903.

EDITOR:—I beg to call your attention to the meeting held at St. Louis, October 27th last, by the American Confederation of Reciprocating, Examining and Licensing Medical Boards.

The following boards were represented; Michigan, Wisconsin, Indiana, Illinois, Kentucky, Iowa, Kansas, Missouri. Ohio, Pennsylvania, Nebraska and Oklahoma. The following states telegraphed or wrote their approval of the work and objects of the Confederation and regretted their inability to send delegates: Idaho, Maine, Rhode Island, Maryland, New Jersey, Delaware, Connecticut, North Dakota, Oregon, Louisiana, Arizona, Florida, Wyoming and Ontario.

Most of the discussion was centered on Qualification No. 2, which added the requirements of a year's reputable practice in the state subsequent to the receiving of a license before endorsement could be had for a reciprocal license in another state.

Qualification No. 2, as amended, reads as follows:

"That a certificate of registration or license issued by the proper board of any state may be accepted as evidence of qualification for reciprocal registration in any other state, provided the holder of such state certificate had been engaged in reputable practice in such state at least one year, and also provided that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date of such diploma was prior to the legal requirement of the examination test, in such state."

The confederation gained, through the St. Louis meeting, an actual increase of membership of over 66 per cent. and a more than probable membership of several times the above percentage within a brief period. From the points of increase in membership and actual attendance by those having authority to act in the matter of reciprocity, information relative to the amount of non-difficulties encountered by those states reciprocating under Qualification Nos. 1 and 2 and a better understanding of such qualifications,

the meeting at St. Louis was without question the most successful and fruitful reciprocity conference ever held in the United States.

The following officers were elected:

President—Dr. W. A. Spurgeon, Indiana.

First Vice-President—Dr. H. H. Baxter, Ohio.

Second Vice-President—Dr. J. A. McKlveen, Iowa.

Sec. and Treas.—Dr. B. D. Harison, Michigan.

Yours very truly,

B. D. Harison, Sec'y.

Book Notices.

Compend of Gynaecology. By William H. Wells, M. D. Third Edition. Revised and Enlarged with 145 Illustrations Philadelphia: P. Blakiston's Son & Co. 1903. Cloth, pp. 293. Price, 80 cents.

Apparently "compends" in medicine have come to stay. Yearly new editions and new compends occupy the ever-widening field. In many quarters they are regarded with disfavor, but their sale increases, so that we must conclude that they meet an actual "want," a want that increases.

The question before us may be stated thus, Does "Wells' Compend of Gynæcology" support its claims? Does it, in skeleton form, fairly state the essential points of clinical history, diagnosis, prognosis and treatment of the diseases peculiar to women?

The fact of being the third edition proves that a very considerable number of physicians already have answered this affirmatively. To its credit must be placed the fact that it does not follow any one writer, but picks from each that which Dr. Wells regards as most representative of general opinion.

It presents such operations and methods of treatment as have become prominent since the second edition appeared. For a book of its size it is well illustrated, both as to quality and number, there being one hundred and forty-five of the latter.

A good index makes it most convenient for ready reference.

"Squint, its Causes, Pathology and Treatment By Claude Worth, F. R. C. S. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1903. Cloth, pp. 229.

This book is the result of the writer's studies of a large number of cases, continued during a number of years and of a study of the visual powers of normal sighted persons. A comparison of these furnished the basis for his ideas on the causes and pathology of squint. All who work in this field grant that additional light is most desirable.

The keynote of his work is that the essential cause of squint is a defect in the fusion faculty, and the rational treatment is the removal of this defect.

Perhaps the two most prominent features of his methods in accomplishing this end, are (1) the use of atropine only in the fixing eye in convergent squint and (2) the use of an instrument which he calls the "Amblyoscope," a modified stereoscope, modified in that it enables the patient more easily to catch the separate images and unite them in one. These are not used to the exclusion of other methods found useful in the management of these cases. Refractive defects are ascertained and fully corrected as the primary step of the general working plan. Ivory balls of various sizes are used as objects for determining the visual power in very young children. With the amblyoscope objects are selected that will interest a young child. After all other methods fail (as they do at times in older children) he operates either by advancement or tenotomy on one or both eyes according to indications.

The other varieties of squint are dealt with on the same general principles, variously applied, in all the physician works towards the development of the fusion faculty, and his success is proportioned according as he reaches it in part or whole. He finds that the fusion faculty begins to develop before a year and is complete before the end of the sixth year. When fairly developed neither hyperopia, anisometropia or hereronhoria can cause squint. Hence the importance of beginning efforts to develop this faculty at the earliest possible date.

As a personal record of one man's experience, this book will attract all who study and labor along similar lines; the more is this so because of the fact that squint is still far from being understood and its correction satisfactory.

The Journal of the Michigan State Medical Society

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